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THE article by Doctor Ellingwood in the March number of this journal is one that deserves more than ordinary attention. To him drugs are realities, and by no means obsolete. His faith in them as means of combating disease and relieving human misery is unquestioning. If we realize this, and rather wistfully wish that we too had reason for such faith, we may ask ourselves what is its basis, and wherein this differs from that on which our own pessimism is founded.

To begin with, Professor Ellingwood deals with real drugs, in really effective dosage. He is not an advocate of infinitesimals, or of agencies whose actual dynamic action can not be distinguished from the suggestive influences always operating when a trusted medical adviser is in charge. So decided is the activity of some of these, that the popular view among the physicians who do not use them is, that they are too powerful for general application—as for instance, with lobelia, veratrum, aconite, and euphorbium. The objection, that the medicinal applications of these mostly originated with the Eclectics, is childish. That they are mostly of native American origin is scarcely to be held a crime just now, when the worship of the European fetish has sustained so severe a blow. All that concerns us is whether these remedies are useful and can aid us in our work as physicians.

Doctor Ellingwood's application of drug remedies is regulated by the departures from physiologic equilibrium of function presented; in other words, he does not aim his therapeutic bullets at the malady as an entity, but at the disorder of function. Quite often, if not invariably, this is true allopathy, the remedy being administered that antagonizes the symptoms present. For instance, if the bowels act too frequently an astringent would oppose the excitation of function. This does not mean that the removal of the excitant in the bowel is not first accomplished. Perhaps a better illustration would be insomnia due to excited nervous and vascular tension, when sleep may be induced by relaxing this tension.

Is this quackish, or in any way deserving of reprobation? If so, if this principle of opposing remedies exactly to presenting disorder is "irregular," then what does "regular" medicine propose to do with its drugs? Give its remedies as specifics for diseases that are not specific?

The argument for a therapy directed against the symptom-complex presenting is,

that whatever relieves the symptoms can only do so by removing the pathologic conditions that induce the symptoms. This does not apply to a mere smothering of the outward evidences of disease by opiates, bromides, and other sedatives. Such remedies do not appear in Ellingwood's lists, nor is this his practice.

There is something inspiring in the suggestion (see page 246, March CLINICAL MEDICINE) that "American physicians have right here at home everything we can possibly need in the cure of the sick." That many of these have been developed by others than ourselves is accounted for: "So engrossed has this [the regular] school been in surgery, and so very much has been accomplished in this field, during the time when the knowledge of these native vegetable remedies was developing, that the larger attention has been given to the adherents of the Homeopathic and the Eclectic schools of medicine; both of these being largely therapeutic rather than surgical schools, as is the dominant school."

As to the active principles, Ellingwood calls attention to the fact that 130 of these are now recognized in the "United States Pharmacopœia" and in "New and Nonofficial Remedies"—surely a good beginning. How many regular physicians are there who utilize more than this number?

Doctor Ellingwood enumerates 62 indigenous remedies that he deems of importance, among those developed, as such, strictly in America. This writer finds 45 of these on his own list, and in use whenever they are indicated. In Ellingwood's new work ("American Materia Medica Therapeutics, and Pharmacognosy,"*) just off the press appear many more of these plant remedies; and if the fourth of what their advocates claim for them be true, there is here a wealth of resource for which we have crying need.

Therapeutics needs far more development of the means of curing sick organs, rather than more methods of extirpating them. We need exactly what Ellingwood offers, more remedies to correct disordered function before material lesions have been perpetuated.

The further progress of drug therapeutics and of preventive medicine lies in this direction. We must learn to recognize disease sooner, and to break up attacks before they are too firmly seated. The possibility of this is being recognized far more generally than it was a few years ago, when the eminent pessimists were doing their utmost to discourage the practician by demonstrating the absolute impossibility of his accomplishing anything good by treatment. Nowadays we read of many typhoids being aborted in a few days by emetine, and not a voice, as yet, is raised in denial of the claims. The internist makes the same demand as the surgeon, to have his cases earlier, that he may secure better results; but when he has the case early, what is he going to do about it? Here is the need for reliable remedies of the sort suggested by Ellingwood.

We ask our readers to turn back and reread this paper carefully, and to examine this new book. Even if you begin by looking on it as a mass of chaff, you can scarcely fail to find a few grains of good wheat among it. To us who have studied it, it is anything but chaff.

*Price $5.00. Published by the author.

And if to be an April-fool
Is to feel contempt for iron and gold,
For the shallow fame at which most men aim—
And to turn from worldlings cruel and cold
To God in his splendor, loving and tender,
And to bask in his presence manifold—
Then by all the stars in his infinite sky,
We are April-fools, my Love and I.
—Mortimer Collins.

THE ACTION OF MEDICINES

When we read that Johns Hopkins has abolished its chair of materia medica, we wonder whether this can be because there is nothing more to be learned of drugs or whether they are so absolutely worthless that the time spent in their study is simply wasted. Probably the action was taken because nobody cared enough for the subject to attend the lectures on it. Still, in that event, one would think it might have been worth while to secure a man who could make his hour sufficiently valuable and interesting to attract the class.

Last March Frazier reported 82 cases of typhoid fever aborted by the use of emetine. Beekman undertook to ascertain how this could be, and submitted typhoid-bacilli to the serum of these patients who were emetized, but found that the bacilli grew freely in this medium. Emetine, therefore, does not exert a germicidal influence over these organisms. How, then, does this drug act in overcoming the disease and aborting its manifestations? Until such questions can be answered we should not close the book on materia medica and write Finis at the end of the subject. But wait—two other investigators show that the alkaloid *is* bactericidal, as you will see by turning to the "What Others Are Doing" department, this issue.

Here is another instance of the imperfection of our knowledge of drug action—can any reader tell us whether the dose of a vermifuge for tapeworm in a child should be the same as for an adult, or diminished according to the rules for dosing children? If the remedy is merely or properly a tenicide, it should require as much to kill the worm in a child as in an adult—but does it?

Some years ago this question was proposed, and the weight of evidence then presented favored the view that the dose should be made according to the child's age or weight. But in that case it must be that the remedial action is exerted by an influence of the remedy upon some of the patient's vital functions, and not a direct germicidal influence upon the worm.

Until such simple questions are solved, there is surely need for continued study of our drug-remedies. Let us hope that the medical mind may continue to develop until it is qualified to undertake such studies.

Happiness! How much it means! First of all, home—a home of our own, with wife and children gathering around our own fireside. There must be enough to eat, warm clothing, a few luxuries. There must be friends. The happiness may be tinctured with sorrow and seasoned with regrets, but general pain and suffering about us are incompatible with joyous living; so, in the new and happier world to which we look forward, we can not conceive of hatred, cruelty, poverty or war.

—The Medical Standard.

THE DISPOSAL OF EXCRETA

It is not very pleasant to think of drinking dishwater, and the canons of good society do not authorize partaking of garbage; nevertheless, the science of sanitation, in so far as it relates to the prevention of disease, begins and ends with the disposal of excrementitious substances. Moreover, while the discharges of domestic animals are not specially healthful and while the horse is credited with the causation of tetanus, the most dangerous substance known to the sanitarian is human excreta.

Covering the tropics and reaching far into the temperate zones, we have just been told, the ravages of the hookworm extend. From the tropics, also, come periodic invasions of the dysentery-inducing ameba. Every part of the world is subject to typhoid fever, and the territory of this disease extends rather than contracts. Each of these three scourges is due to infection from fecal discharges containing the germs of the disease. While the larvæ of the hookworm penetrate into the body through the feet, the others are taken into the stomach with food or drink. If we could destroy the germs of these three maladies before they leave the bowels, we could soon put an end to them and thus rid the world of three of humanity's most dangerous enemies. We repeat, if we have not at present a really effective intestinal germicide, it is certainly up to us to discover one.

Meanwhile we may accomplish much by providing suitable toilets. These are especially needed on the farms, where a really sanitary privy is the exception. In rural districts, they usually are placed as near to the house as admissible, and in many instances even in proximity to the well. Throughout the southern states, there is too often no toilet at all. But even when there is one, it is, as a rule, a mere hole in the ground, too deep for the air and its salutary organisms to act upon the contents, but not deep enough to escape drainage into the well or spring.

Three devices have recently been brought to our notice, designed to meet the needs of those dwelling in isolated houses. The towns and cities are much better taken care of municipally, and are ahead of the homes in rural districts in this respect. They seem to deserve consideration.

One of these systems has received the approval of the Michigan state health-authorities and is recommended by them. It consists of a liquefying tank, from which tiled conduits carry the sewage to several points, allowing it to escape near enough to the surface to secure the disinfectant action of the air. This allows the material to be utilized as a fertilizer. It is a good system, the only objection being the cost, which, we are informed, "need not exceed $150."

The second is an apparatus that may be placed inside the dwelling; no odor escaping from it. It also has a liquefying tank, but, instead of waiting for the slow action of the decomposing bacteria, the manufacturers claim that they have a chemical in the tank that instantly liquefies the sewage. Until we are convinced that these people have made a momentous discovery in chemistry, we must conclude that this "chemical" is caustic soda; and we doubt if this can be a safe article anywhere about a house where there are children. And what children won't do, what are the limits of their curiosity, are questions to which no answer has ever been forthcoming. The cost of this apparatus is $53.50, plus freight. A smaller outfit supplied by the same firm is simply the pail-system, also utilizing the firm's secret chemical. The price of this is $18.50.

The third is the system devised by Doctors Lumsden and Stokes, of the United States Public Health Service. It essentially consists of two barrels, one being the liquefying tank, the other intended to receive the overflow. Precautions are taken to prevent access of insects and to guard against odors and splashing. The total cost of this contrivance, aside from that of the superstructure—which is not considered in any of these—is less than $5.00.

The writer has had several years' experience with the Lumsden system. If properly installed and cared for, it emits no odors, and it answers well, for example, for a summer-resort cottage. The liquefying barrel must be filled with water, and into each barrel a cup of kerosene should be poured about once a week. In about two to three months (under ordinary conditions), the second barrel will need to be emptied; and the contents may be utilized for fertilizer, provided they are deposited at a safe distance and in a direction away from the well or cistern. The soil, and consequently the water-supply, is amply protected against contamination, as not a particle of the sewage is allowed to escape from the barrels.

For the summer home or for warm latitudes, the Lumsden system is well suited; however, in cold weather, the freezing of the water will burst the barrels.

The labor of emptying the second barrel once in three months is but slight and hardly constitutes a valid objection. During the winter months, the pail-system may be employed to supplement the other, using a commode with a bucket containing freshly made whitewash, which Nuttall found most effective against the typhoid bacillus. Or, the earth-closet may be used, if preferred.

The essential parts of the Lumsden system are: two tar-barrels, costing about 50 cents each; a T-pipe, each arm a foot long and opening protected by wire netting, to exclude insects and rodents; a galvanized-iron drum, 20 inches in diameter, to rest on the first barrel and be fastened to the under side of the seat; a splashboard, to be raised to near the surface of the water when in use, and lowered afterward; suitable covers for seat and second barrel.

Where the cost is not a bar, the first-named system is preferable; otherwise the Lumsden presents many advantages. The introduction of such apparatus would not only prevent much infectious disease among farmers and country residents in general, but also keep farms from becoming foci for the dissemination of maladies, through their food-products. Here is a duty and an opportunity for the country doctor.

FALSE AND FRAUDULENT THERAPEUTIC CLAIMS

As most of our readers will remember, a little more than two years ago the federal Pure Food and Drugs act was modified and strengthened by the socalled Sherley amendment, which expressly forbade the use, on labels and circulars, of "false and fraudulent statements" relative to the therapeutic action of medicinal preparations offered for sale in interstate commerce. The constitutionality of this amendment was challenged by the manufacturer of a well-known proprietary medicine—Eckman's alterative—which was alleged to be "effective as a preventative of pneumonia," and for which the claim was also made that "it has [cured], and will cure tuberculosis." This concern, having been found guilty of making false and fraudulent claims regarding the curative properties of its "alterative," appealed its case to the Supreme Court of the United States, on the ground that the Sherley amendment was unconstitutional.

On January 10, Justice Hughes delivered an opinion, concurred in by every member of the Supreme Court, upholding the constitutionality of the Act. This opinion contains the following significant statement: "We find no ground for saying that Congress may not condemn the interstate transportation of swindling preparations, designed to cheat credulous sufferers, and make such preparations, accompanied by false and fraudulent statements, illicit with respect to interstate commerce, as well as, for example, lottery tickets."

In another place, the justice makes the following statement: "That false and fraudulent representations may be made with respect to the curative effect of substances, is obvious. It is said that the owner has a right to give his views regarding the effect of his drugs. But state of mind is itself a fact and may be a material fact, and false and fraudulent representations may be made about it; any persons who make or deal in substances or compositions alleged to be curative are in a position to have superior knowledge and may be held to good faith in their statements."

This decision is of exceeding importance, since it now definitely establishes the power of our government to prevent the sale of

fraudulent medicinal products. As a result of this decision, we may reasonably expect to see increased activity in the prosecution of patent-medicine manufacturers. Careless and extravagant statements regarding the curative action of "patents" will soon become unpopular, even with their manufacturers, since to claim too much will involve expensive and perilous litigation.

While strict enforcement of the Sherley amendment may open the way to persecutory attacks, on the whole the affirmation of its validity by the Supreme Court is bound to do great good. The man who tells the truth, the whole truth, and nothing but the truth has nothing to fear; but the man who draws the long bow when offering his wares for the cure of serious disease will learn from experience that, after all, "honesty is the best policy." If he cannot or will not learn this lesson, or if his remedies cannot stand the searching test of honest investigation, then they will be driven from the market.

"Whatever thy hand findeth to do, do it with thy might" is a precept to be accepted with discretion, according to one's strength.—Robert T. Edes.

MEDICAL TREATMENT OF INFANTILE PARALYSIS

During the past few years we have seen considerable changes in our viewpoint of poliomyelitis, for which, in great part, we are indebted to the efforts of the Rockefeller Institute, and especially to Dr. Simon Flexner, who have been doing yeoman research-work in this branch of medicine. From a practical standpoint, the net sum of these changes may be expressed in two overhead propositions:

1. The cause of the disease is now definitely determined to be a distinctive microorganism.

2. The pathology can no longer be regarded as limited to the anterior, or motor, horns of the cord, or, indeed, to any particular part of the cord. The disease attacks the interstitial gray matter of every portion of the nervous system and also the meningeal membranes. Clinically, we recognize three forms, or types, of the disease, according to the anatomical part of the nervous system that is most severely affected, and the symptomatology which therefore predominates; namely: the encephalitic, the spinal, and the meningeal. But in each of these types all are more or less involved.

Unfortunately, the definite demonstration of the determining bacillus of the disease has not, thus far, resulted in any equally definite biologic therapy. Flexner, to be sure, has produced a serum which, if administered during the early febrile days of the disease, before paralysis has supervened, may abort the malady and limit or prevent the subsequent paralysis. This serum, however, was elaborated before the isolation of the bacillus and cannot be said to represent any specific biological therapy. It has, moreover, the disadvantages and shortcomings of all serum-treatment. In any event, the majority of cases do not come under the physician's care until the nerve-substance is already damaged and paralysis has been established, so that the problem before him is, how to make the most of the surviving nerve-cells and muscles.

After all, in the present state of our knowledge on the subject, as Jeliffe tersely says, "the vascular lesions are particularly noticeable, and the interstitial and ganglionic changes depend very largely upon them." It is the vascular lesions, when all is said and done, which produce the symptoms and wreak the damage upon the nerve-cells. And it is, therefore, to the vascular lesions that our therapeutic measures must, for the most part, be directed.

It must, of course, be borne in mind, first, that the disease is an infectious one; and, if we have as yet no specific biologic weapon against the specific infection, we can at least lay the foundations of general systemic antisepsis.

Flexner has shown beyond question that the principal portal of entry for the bacillus is the nose; it is, therefore, an elementary principle of treatment that the nose and throat be thoroughly and frequently douched and swabbed (but not sprayed, for fear of spreading the infection) with antiseptic solutions, such as a 5-percent solution of phenol. Hexamethylenamine, given in fairly large doses, undoubtedly exercises a beneficial inhibitive influence upon the germs, being released by the serous membranes of the meninges in the form of formaldehyde. It must be remembered, however, that this process is dependent on the acidity of the reducing secretion, and it is, therefore, best to administer the hexamethylenamine in combination with acid sodium phosphate. Flexner's serum should be given a trial in every case where there seems to be the slightest chance of its doing good, using, of course, all the precautions which pertain to the administration of all serums. The presence of the bacillus has recently been demonstrated in the feces, which would point to

the importance of intestinal antisepsis in treatment, and of proper disposition of the stools as a measure against the spread of the disease.

He who stops short at this prophylactic treatment, however, misses his most hopeful opportunity and neglects his most effective means of influencing favorably the course of the disease and of sparing the patient much of its disastrous sequels. As we have just quoted from Jeliffe, most of the interstitial and ganglionic changes result from the vascular lesions; to which may be added that practically all of the pain results from the same pathology. The chief part of our therapy, then, should consist in a vigorous attempt to equalize circulation and to absorb the petechial hemorrhages that have already taken place into the nerve-substance.

The most elementary logic would instruct us that the rational therapeutics, in such cases, would be the same that we apply to similar conditions elsewhere in the body. The rational basis of therapeutics in inflammatory conditions is, first, derivative, then absorptive, and always eliminative therapy; and inflammations of the nervous system offer no exception to the rule. The secret of success lies in using definite, dependable remedies, and pushing them boldly, albeit intelligently, to effect.

A brisk purge of the gastrointestinal tract, by means of calomel, followed up with a saline laxative, is the first requisite. Veratrine, aconitine, and digitalin, in combination, will dilate the capillaries, slow the heart and equalize circulation in the active stages. Southwick, and others, speak highly of calcium sulphide. Cold to the head or neck and heat to the extremities will assist in the derivative process. Later, when the acute symptoms subside, ergotin and cicutine will tone up the spinal capillaries and relax the neurones. The pain usually does not call for any special treatment, being quickly relieved by the dissipation of the congestion. The pain may, however, be rendered more tolerable, while it lasts, by means of some motor antispasmodic, such as gelseminine or atropine.

Immediately upon the subsidence of the acute inflammatory symptoms, galvanism should be applied to the spinal muscles, to maintain their contractility and nourishment pending the restoration of such neurones as are destined to be restored. It must be understood, however, that galvanism (or faradism, too, for that matter) has no effect upon the restoration of the neurones themselves, and it should, therefore, be stopped after a reasonable time (say, three or four weeks) allowed for neuronic regeneration. During the restorative period, a great deal of help may be derived from the administration of nuclein hypodermically and lecithin by the month.

It is seldom, if ever, of course, that poliomyelitis is *cured* by treatment during the active period. But it is the duty of the physician to limit, where he cannot altogether stay, the ravages of disease. And by an active, intelligent, resourceful application of therapeutic principles, abstract and concrete, to the well-defined pathology of this severe disease, he can do a great deal toward minimizing the residual paralyses and other sequels and lessening the subsequent task of the orthopedic surgeon.

It is characteristic of the really big men that they can always find time to do the things they want to do.

THE SURGICAL TREATMENT OF INFANTILE PARALYSIS

In spite of the most faithful and intelligent therapeutic treatment of poliomyelitis during its active stages, there will practically always remain a residue of paralysis and deformity, calling for the ingenuity and skill of the orthopedic surgeon. It is, obviously, beyond the range, as it is outside the function, of an editorial article to describe in detail or even to indicate in outline the surgical measures to be employed in the treatment of these cases of residual infantile paralysis; the most one can hope to do here is to point out the basic requirements of the situation, briefly state the ways in which they have hitherto been met, and call the reader's attention to one or two of the more recent innovations that have enhanced our effectiveness in dealing with them.

Up to a few years ago, the time-honored methods of treating these paralyses and deformities consisted in prescribing muscular exercises, active and passive (including electrical stimulation), mechanical supports, such as splints, casts, jackets, masts, and so on, and, as a last resort, tenotomies for the correction of irreducible deformities. And these procedures still form a considerable part of our available resources, although, of course, there have been great advances and improvements in the character and application of such devices.

The aim of all such procedures is, to afford the defective muscle-nerve mechanism its maximum efficiency, by putting it in the best-possible structural and mechanical posi-

tion to perform what function it was still capable of. And this is still regarded by most orthopedic surgeons as being the first requisite, even though it be only a preliminary to some more radical measure. However, as will plainly appear, the possibilities of all these mechanical measures are limited by the potentialities of the affected nerves and muscles themselves; they can, in short, give the muscle-nerve mechanism its maximum play, but cannot change or add to their field of function.

Within the last comparatively few years, however, two other modes of surgical treatment have been added to our resources, which break over the bounds of these limitations, and enable us to rearrange the muscle-nerve mechanism, so as to alter and extend its range of action. These two methods are, the transplantation of tendons and the transference and reimplantation of nerve-trunks; these operations being employed separately or in conjunction, as the case may be. The results attained in some instances are remarkable, even wonderful.

The principle of these two operative measures is essentially the same, namely, to cross-circuit the transmission of traction-power so as to change the direction of the resultant pull of the muscle and to furnish a defective muscle or tendon with motive-power from a source that is not defective. This is accomplished, in the one case, by crossing the transmission-cable itself, so to speak; that is to say, by transplanting the tendon. In the other operation, the object is secured by crossing the feed-wire that supplies the cable, that is, by transferring the nerve—the latter being rather more difficult than the former. There can be, of course, no hard and fast universal rules that can be laid down for the performance of operations of this nature, each case being governed by its own circumstances and the judgment of the surgeon.

The important thing is, that the introduction of these two recent procedures has greatly widened the field of effectiveness in the surgical treatment of infantile paralyses. They are especially effective and available in dealing with these paralyses of young children, because the new functional circuits thus created are readily established in the undeveloped economy of the little patient, who easily accepts and adjusts himself to the new conditions. They afford much the same sort of superior advantage over the old splint and tenotomy methods that the practice of crossing circuits in an electrical system would afford over that of simply mending and splicing wires that were broken or displaced.

Robert Jones, who is probably the best living exponent of this type of surgery, lays down the dictum that "no operation such as tendon transplantation or nerve transference should be discussed until all deformities have been corrected and retained in correction for at least a fortnight." He then lays down various rules for the carrying out of these forms of correction. Thus, he divides the process of making splints into three steps: (1) taking a negative case of the limb, (2) making a positive from the negative, and (3) molding the splint on the positive. Of these three steps, he says, it is essential that the first be performed by the medical man himself, in order to insure that the limb be in the correct position; otherwise, the splint will be useless. The second and third stages may be carried out either by the medical attendant himself, by an instrument-maker or by some specially trained nurse.

Concerning arthrodesis, or the artificial ankylosis, of the knee-joint, Jones declares that this should never be performed on a child. It is unwise to undertake tendon transplantation in children under five years of age, for the following reasons: (1) because of the technical difficulty of manipulating small tendons; (2) because time should be given to the muscles to recover without operation; and (3) because it is essential that the child should be old enough and intelligent enough to help voluntarily in the after-treatment.

Upon the question of the time at which mechanical treatment of poliomyelitis should begin, Jones recommends that for the first four weeks the patient have complete rest in bed, but that even during the first few days, if there be any tendency to deformity, a temporary light splint be employed. At the end of two weeks, when all pain has usually subsided, a cast of the limb should be made and a splint molded thereon—presupposing, of course, that there exists any deformity calling for surgical intervention.

Three qualities are absolutely essential in the surgeon for the successful carrying-out of these mechanical and surgical procedures, as follows: a thorough knowledge of the anatomy involved, a nice sense of mechanics, and adequate technical dexterity. If he does not possess these to a well-developed degree, he had best not attempt this type of surgery, but refer his post-myelitic patients to one who is thus qualified. They are most distressing

cases to the parents of the little patients, and they tax the patience and resources of the medical man to the utmost; but, on the other hand, under modern knowledge and facilities, and with painstaking care, they often yield most surprisingly good results and thus win the gratitude and loyalty of the family as almost nothing else in the world can do.

Try your hardest, give all you can, act by the inner light and stand true to what you know, and let the result take care of itself. You will be surprised to find that it was not nearly so bad as you think; perhaps it was more than passably good; possibly it was excellent. If you are too anxious about the impression you are less likely to succeed than if you are passionately engrossed in what you do. All is forgiven to sincerity.

—Philadelphia Public Ledger.

DEATH OF PAVLOV

Death is taking a heavy toll of distinguished members of the medical profession during these strenuous times. Thus, we have only just learned of the decease in mid-February, at Petrograd, of Ivan Petrovitch Pavlov, at the age of sixty-seven years.

Perhaps no man has contributed so much, since Beaumont, to an understanding of the work of the digestive glands of the stomach, as has Pavlov. It was he who explained the relation of appetite and sense stimuli to gastric secretion and digestion, and the discovery of secretin by Bayliss and Starling and the later developments of hormone-therapy undoubtedly rest directly upon the pioneer work of this distinguished Russian.

Pavlov, it is said, "was a charming personality, beloved by his pupils, for he was ever ready to stimulate their researches and to grant them opportunities and his personal aid in their execution."

LIFE—ITS CONCENTRATE

In the "Spoon River Anthology," Edgar Lee Masters prints the postmortem autobiographies of several hundred spooks whose bodies lie rotting in the cemetery at Spoon River, Illinois. In these prose-poems the defunct tell the absolute truth about their careers on earth. They have been dead a long time, and, hence, stand before us in spiritual nakedness, revealing all the squalor, longing, despair, meanness, disillusionment, and majesty of human life.

Of course, there were doctors in Spoon River; and they were good doctors, too. We are told that Doc Meyers, for years, was a respected, successful, happy, generous man—too generous, in fact, for a young woman came crying to him in the night, begging to be helped out of her trouble . . . . and he yielded. He died in prison. And Doc Hill . . . . but let the doctor's shade tell its own story:

I went up and down the streets
Here and there, by day and night,
Through all hours of the night, caring for the poor who were sick.
Do you know why?
My wife hated me, my son went to the dogs,
And I turned to the people and poured out my love to them.
Sweet it was to see the crowds about the lawns on the day of the funeral,
And hear them murmur their love and sorrow.
But oh, dear God, my soul trembled, scarcely able
To hold to the railing of the new life,
When I saw Em Stanton behind the oak-tree
At the grave,
Hiding herself and her grief!

Can you crowd into one hundred and thirteen words so many of the conflicting motives and emotions of this joyous, troubled, passion-filled life? Try it.

SIMPLE REMEDIES—IN DIABETES, FOR INSTANCE

Having scoured the world for remedies, levied on earth, air, fire, and water, on animal, vegetable, and mineral, on nature's combinations as found in springs and their saline constituents when separated, having seized upon every new discovery like the x-ray, radium, and so on, and sought to detect therapeutic resources in them, we seem at last to have begun at the natural beginning and to have taken up the primary and most obvious of agencies.

The Allen treatment for diabetes examples this aptly. After trying out everything else, Allen gets down to starvation, and finds that acidosis and glycosuria alike subside under this absolute regimen. Then, starting from the basis of complete emptiness, he ascertains by very careful introduction of food, what is the exact quantity and form the patient can manage without return of the ominous symptoms. The total quantity is at first exceedingly small. Table No. 2 allows for a day 420 Grams of asparagus, celery, onions, cabbage, and spinach, with tea or coffee, or 150 calories in all.

Starvation does not, as many seem to think, occur immediately if a usual meal is missed, or if less than half the quantity necessary to support adult life is taken; life can not be sustained long under acidosis with glycosuria; but, when these are removed,

the exact quantity each patient can really utilize each day, and the least harmful forms of food for each, are ascertained slowly but surely. This method of treatment for diabetes was described fully last month. See page 254.

The success of this treatment is apt to cause ear-tingling in those of us who have been blundering along for all these years with opium, codeine, and other narcotics. Reminds one of the days when we used to pour in our intestinal antiseptics, so useful in diabetes, while the bowels were loaded with feces that furnished a constant stream of toxins to the blood. Why didn't *we* think of this simple method first! ! !

Then there is the dry diet. For years we have urged its importance, on strictly mechanical principles, in the treatment of certain affections of the heart. The idea of reducing the unavoidable labor of a partly disabled organ to the minimum possesses a simplicity that commends it. The improvement following its application is gratifying. So also the value of strict limitation of fluid imbibition in treating obesity is quickly made manifest by a trial.

But now comes that good observer, Dr. Herbert T. Webster, of Oakland, California, who, in the current number of *Ellingwood's Therapeutist*, asserts that he can vouch for the success of a colleague who treats many if not nearly all maladies by means of the dry diet. Such widely differing diseases as advanced pulmonary tuberculosis, carcinoma, and the fibroid indurations following compound, comminuted fractures, with total loss of mobility, give way under this drugless method.

While doubtless this is too good to be true, we may realize that there are values in the dry diet that we have not yet suspected; benefits that may be discovered by trials, applications of the principle that may reveal possibilities hitherto deemed incredible by most of us.

Through complexity we progress to simplicity. From Warburg's tincture with 47 ingredients we pass through the ever shortening prescription to the single remedy, administered with definite purpose. Possibly we may in time pass through the study of every specialty, of every separate part of the human apparatus, to that of the man as an individual and learn to evaluate his vital assets. We may even reach the heights of seeking to preserve health, instead of waiting until disease is established and its disastrous assaults have been made—but we incline to believe that before this point is attained the millennium will have overtaken us.

If, instead of "trying to rediscover things that had been already discovered and forgotten ten times over in the centuries of the past," we devoted ourselves to delving, mining, and diving into the things of the present, how much more profitable the occupation might be and how much greater the advance.—Veterinary Journal.

FLY-CATCHING TIME

One of the greatest advances made by modern sanitary science is the detection of insects as carriers of disease. The old airborne and fomites hypotheses are pretty well demolished now, and we place the blame for infections on such tangible objects as flies, fleas, lice, bedbugs, ticks, and mosquitoes. The work of practical prevention is immensely simplified thereby, for the average citizen can see an insect, and he has none of the superstitious dread of it that he shows toward unseen enemies. He may look on the occurrence of an epidemic as a visitation of the anger of the great gods and consider the only pious ways of meeting it to be repentance, reform, and offerings at the altars; but he will swat the fly, without pausing to ascertain whether the pesky creature is under the protection of Apollo or Minerva.

With which erudite premise we now proceed to remark that now is the time to subscribe to the *A. J. C. M.* and eke to swat the fly. Every all-fools'-day lady fly carries about her the certainty of innumerable billions of other flies during the coming summer. Kill one musca now, and many a muscular exertion later is saved; many an objurgation is rendered unnecessary, and one's prospects for the hereafter are by that much brightened. Many a consoling moment of early morning or late afternoon slumber may be thus added to the sum total of happy time. But—how are we to get within range?

Now is the time for the wife to clean house, before the surviving flies have awakened to activity. Brush out every dormant insect from closets and the innumerable crevices in which they have taken refuge, and sweep them up and into the fire—or, better, into the chicken-coop. Nor take it for granted that the motionless creatures are dead—they're only shamming, like Kipling's fuzzies.

Borrow a post-hole digger and sink several holes in the garden, about four feet deep. In one, deposit all the garbage and dishwater, and all the other slops possible that are produced by the household. Let nothing stand about that could feed a fly. Leave no

water about or anything else that might satisfy the thirsty creature. Over this hole place a fly-trap, one of the big ones of about ten or twelve inches in diameter. The garbage will attract the flies, and the trap will catch them. Whenever there is a large-enough collection, drown them and feed them to the chickens—they need all the meat they can get, and it is well to cultivate the insectivorous habit in them. When one hole is nearly full, cover it and use the next one. A piece of raw liver as bait collects the blow-flies and biting horse-flies.

Every bit of manure and offal in which flies may breed should be tucked under ground promptly. Let every member of the family understand that dishwater and water from wash-basins, thrown on the ground, attract the insects and favor their propagation. We have destroyed innumerable deer-flies by placing one of these large traps over a horse's droppings, in the woods, where the biting things had driven the horses crazy.

It seems scarcely necessary to say anything about the need of screening the premises, but one should not forget the need of using this protection for the animals in the stables also. It will surely be shown one day that tetanus may be transmitted by some biting insect that haunts the horse.

Every room in the house should be supplied with a fly-flapper, and these should be attached to hooks by long rubber cords, allowing them to be carried to every corner and then returned to their place by the elastic. Careful calculation has indicated that one-eleventh of one's time in summer is devoted to hunting for this indispensable instrument.

"Life is not only for work; it is for one's self and one's friends."

THE VALUE OF SUGGESTION

Wherever one goes, he finds himself regaled with accounts of the successes of the various suggestive-therapeutic methods that happen to be in vogue, but, as soon as the novelty of one wears off, another makes its appearance, differing only in the name and in so much of the outward seeming as may be necessary to impart the dress of novelty. The prescription for the successful introduction of such a new fangled therapy appears to be in somewhat after this fashion:

A practitioner of rather imposing appearance and an impressive personality;

A novel dress for the ancient idea;

A quasi-religious plea for the method, together with denunciations of dependence upon the "arm of the flesh," the "chariots and the horsemen of Egypt"—*ergo*, on human reason and comprehensible measures.

An enveloping domino of mystery.

That is about all, except that there must be, as a powerful accessory, an influential woman to advocate and circulate and exaggerate the matter.

Nevertheless, the doctor who fails to avail himself of the resources legitimately comprised under the term suggestion is worse than the rascal who does; for, he is a fool. And a brainy scamp is far less to be dreaded and blamed than an honest fool.

There is this difference: the wise man uses suggestion as a plus to reason and science. He ascertains, then removes, the true causes of disease, plucks out the thorn; he restores the floating viscera, slaughters the invading micoorganisms, empties and disinfects the external and internal sewers, and to these material aids he adds the mighty force of suggestion.

Recognizing the tendency of humanity to superstition, such a doctor turns this into a means of aiding the cure. Not one of the purely suggestive methods can hold its own against the wise combination here depicted We are ready to do all that the Weltmers and the Eddys can do, besides a lot more of which their ilk are ignorant and incapable of performing.

However, it is not enough that we merely brag about being able to do this—we must also do it. There is but one specialty in medicine more essential than suggestion. Better know this, and be an accomplished psychologist, than an adept in gynecology or geriatrics. Any work on hypnotism in any guise is of untold value; but, the doctor must go far beyond any single book, must know the fundamental principles upon which all suggestive methods are based. The recognition of these forms the center from which one may work in any direction.

Reduce the miraculous cures told in all the holy writs and the royal touch for the king's evil to the common denominator, and the lesson is learned. From it, we pass successfully to the estimation of Perkins' tractors, and hence down the line to Keeley, Weltmer, Eddy, Mesmer, Still, *et id omne genus*.

The popular predilection for suggestive methods of therapeutics is easily accounted for on evolutional principles. The sentiment of humanity moves, pendulum-wise, between the extremes of progress and of conservatism.

Each side applies hard names to the other—"innovation" and "fogyism," "progress" and "reaction"—and such like—but, in truth, the safety and steadiness of humanity depend upon the fairly even balance between these two forces, the one centrifugal, the other centripetal.

But, the apostle of change is always, in the eyes of the other, irreligious. And, as age is ever conservative, and it is the old who write while the young act, history is a product of advancing years. So, we read the protest against the putting on of clothes as an evidence of the consciousness of sin; and the Deity turns, from the offerings of the "degenerate" cultivator of the soil, to those of the herder of cattle. Undoubtedly, in a previous age, the divine wrath was invoked against the "impious" one who herded tame animals instead of hunting them in their still free and wild stage.

Mankind progressed from the acquisition of personal property by individual effort to its seizure by superior force; the protection of property rights by law and the altruistic principle came later. The grand principle, that the prosperity and happiness of each is assured by those of the rest, is one that is as yet scarcely recognized, except by the most advanced and enlightened thinkers.

Realizing this fundamental truth, we can explain and comprehend the difference between European sentiment and action and those of our own. The moral considerations that render Canada and Mexico safe from aggression on our part are not as yet comprehensible there, where weakness on the part of the neighbor is simply an invitation to forcible acquisition of the weaker's soil. Realization that the close bonds of amity between our northern neighbor and ourselves are worth more to each than conquest or any other form of political amalgamation is not yet possible across the Atlantic.

The European ideal is still that of the robber. The ideal of America is, industry. But, in the eyes of the East, our sole thought is that of money-making. Between that and the development of resources and individuals by peaceful industry, the European is not as yet capable of drawing the broad distinction.

His ideal is the raider who, by force, amasses wealth and then seeks to enact just such laws as may protect him in the enjoyment of his acquisitions, and transmits them to his descendants, by entail. Trace back the original source of that estate of "five thousand acres surrounded by a ring fence," which the "lord of the manor" has received from a line of ancestors running back for centuries, and we find that it is derived from a successful act of robbery—the sequestration of lands really owned by the commons being included in this category. The next neighbor derived his title from purchase, with the proceeds of commercial or manufacturing industry—and he is looked upon with contempt by the descendants of robbers surrounding him.

So, whenever the scion of European aristocracy applies to us the derisive title of "money-grubber," "worshiper of the almighty dollar," "pork-packer," or any other name indicative of contempt, we may, in defense, inquire by what particular variety of thievery he, the "noble," came to be in possession of his ancestral domains.

My good friend, no need to be ashamed of the fact that your fortune came from the manufacture of soap, or to hang your head in the presence of the Duke of St Albans. Would you be willing to owe your opulence to the same source as his?

Thoughts hardly to be packed
Into a narrow act,
Fancies that broke through language and escaped,
All I could never be,
All men ignored in me,
This I was worth to God, whose wheel the pitcher shaped.
—Robert Browning.

PRACTICAL POINTERS FOR APRIL

April fool—the doctor who tells his patients that "most of our drugs are worthless." Also, several other kinds of a fool.

Nocturnal syphilitic headaches and bone pains yield promptly to the iodides. Try calx iodata, in 20- to 30-grain doses, with mercury protoiodide.

You should read every line in our "What Others are Doing" department. There you will find condensed, but sufficient, accounts of all that's new and worth-while in therapy.

A solution of sodium ethylate is an efficient dermal caustic for the destruction of moles, nævi, and other cutaneous blemishes. Apply with a glass rod to the tumor only.

I want to know all that is possible to know about the successful treatment of rheumatic joints and obscure muscle-pains. Send me your best suggestion—and condense it into a single paragraph.

Ever use pleurisy-root for pains in the chest? Try bryonin. It is a favorite with the Eclectics for pleurisy, pneumonia, and all painful conditions due to congestion of the serous membranes.

If you prick your finger or otherwise injure yourself while caring for a luetic patient, rub some 33 1-3 calomel-ointment into the injured spot at once. This is an effective preventive of infection.

Whooping-cough? Scoff all you please, but calcium sulphide is our best remedy. Saturate the patient thoroughly with it. Disprove my assertion of its merit, *if you can*. Support its action with hyoscyamine and monobromated camphor.

Metchnikoff has shown by his work on animals that infection with the parasite of syphilis does not occur when a 33 1-3 percent calomel-ointment is thoroughly rubbed into the site of inoculation within one hour after exposure.

Have you an anemic patient—one who doesn't improve as he should under iron given internally? Try weekly subcutaneous injections of iron citrate, or of a combination of iron, strychnine, and arsenic.

Use your CLINIC index. If you haven't one, drop us a line (postal card) and it will be sent without charge. With a series of bound volumes of this journal, well indexed, you have a "cyclopedia of practice" that, for practical value to you, positively cannot be equalled.

For the weak heart of the paroxysm of angina pectoris, give caffeine and sodium benzoate hypodermically; relieve spasm with glonoin; and alleviate pain with morphine and hot applications to the precordium. Digitalis is contraindicated. This is the advice of Kohn.

With mercury salts going up like a war-balloon, the time is ripe for the doctor to use more of the vegetable cathartics; for instance, podophyllin and aloin. Why doesn't the average physician prescribe podophyllin more frequently? There's no better hepatic stimulant.

The food decomposition products, which are at work from childhood to old age, are the chief underlying factors in the production of high blood pressure and cardiac disease of later years. Thus writes R. N. Willson in the *J. A. M. A.* "Clean out, clean up . . . . " Oh, well, you know!

Allen's starvation treatment of diabetes now has "first call" with the medical "four hundred." And it has great promise. Allen is one of the brilliant group of investigators working at the Rockefeller Institute. The method was described fully in our March issue, page 254.

Atropine, given in 1-100-grain doses, hypodermically, fifteen minutes before beginning etherization, is said by W. J. Robinson (*Critic and Guide*) to reduce the quantity of respiratory secretion, lessen spasm, raise blood pressure, and strengthen the heart and respiration. But—it may abolish the pupillary reflex.

Ochsner declares that, in his experience, gastric cancer often follows gastric ulcer when the patient has habitually eaten large quantities of food likely to be infected with manure, such as celery, lettuce, radishes, and the like. The manure-borne cancer-germ is thus conveyed to the open sore in the stomach.

Hudovernig (*Neurol. Zentralbl.*, No. 16, 1915) says that the tissues of the dipsomaniac—the "d. t." patient—are saturated with alcohol, which can best be removed by sweating the patient with pilocarpine. Guard the heart with digitalin. Under this treatment, the percentage of recoveries rose, from 58, to 80 percent.

A supply of veratrine should be in every doctor's emergency pocket-case. Not only is it one of the best and safest remedies we have for the rapid, bounding pulse of febrile conditions, as in pneumonia and pleurisy, but it is positively the best single remedy we have for puerperal convulsions. Push it till the pulse is slower—to 80 or less.

Rosenow has learned some mighty interesting things about appendicitis. For instance, he found a *specific* type of streptococcus imbedded in the tissues of every diseased appendix. Cultures of these organisms caused appendical disease in rabbits. (Yes, rabbits have appendixes, too.) Moral: Before long, we shall be curing recurrent appendicitis with bacterins. Want to experiment? Write me.

Goetsch's int resting experiments, recorded in the *Johns Hopkins Hospital Bulletin*, show that extract of the anterior lobe of the pituitary body is a stimulant of sexual development and activity, in both sexes—at least in rats. The posterior-lobe extracts have a retarding effect. Corpus luteum (lutein) stimulates sexual development in the female, retards it in the male. So much for the experimental phase; now for the clinical.

A subscriber asks us to explain "the Gibson ratio." This is a prognostic sign in pneumonia, first described by Gibson of Edinburgh, to wit: when the figures expressing pulse frequency are as high as the figures expressing blood pressure, then the patient is likely to succumb: pulse, 110; blood pressure, 100 to 110—danger! It is of less value in children and the aged than in vigorous young adults. See February, 1915, number of CLINICAL MEDICINE, page 158.

Leading Artieles

The Therapeutic Indications Suggested by Routine Blood Examination

By B. G. R. Williams, M. D., Paris, Illinois

Author of Williams' "Laboratory Technic for Practitioners"

EDITORIAL NOTE.—Doctor Williams has promised us a number of papers in which he will show the practical therapeutic value of the laboratory findings. We believe that these papers will prove of signal interest and value to the readers of this journal. The general practitioner will secure from them just the assistance he needs to make the report of the clinical laboratory of maximum value to him.

TURN on the searchlight!

An Irish private was doing picket work in northern France. Pat, it is said (of course, you need not believe this story), was equipped with pocket-flashlight, pistol, rifle. Likewise with ample instructions. But Pat was not good at remembering. In the course of the night, Pat heard a noise, whereupon he promptly shouted, "Who goes there?"

No answer forthcoming, Pat reasoned quickly: "If that is a German spy, I can get him with my rifle; if it is a Zeppelin, it would be better to shoot into the air with my pistol; but, if it is only an owl, a whoop will scare him away. I think I'll try all three and so settle the matter." Two shots resounded, then a cry pierced the air.

The result will appear further along.

Turn on the searchlight—always? You cannot diagnose a blood condition without a blood examination; and this paper has been written to prove that you cannot successfully treat a diseased system by aiming at everything all at once.

The physician glances over the blood report submitted, then attempts to detect some little point that may aid him in his treatment of the case. He ponders over the figures and the long names for the little cells (a blood report is a bit scientific and formidable), then, often, lays it down with the impression that, surely, there cannot be much of practical worth in it. I fear, too, that he will find but little in the texts to contradict this conclusion. And this has prompted me to give somewhat in detail the therapeutic indications suggested by the routine blood examination.

Pat missed the skunk creeping closely to the ground, but the pussy-cat was impressed by the demonstration and confided this fact to Pat in its own characteristic way. Watch out for the skunk in the blood report.

What Is Anemia?

What is anemia? Only one definition suits the viewpoint of the laboratory-man. Anemia means a diminution of the number of erythrocytes (red cells) present in one cubic millimeter of blood. Most other definitions are unsatisfactory, inasmuch as generally hemoglobinemia (diminution of the hemoglobin, or blood-coloring) is included in or confounded with it. Of course, the two conditions may go hand in hand, and usually do so to a greater or less degree; but, still, we know that anemia may occur with only a relatively slight hemoglobinemia present, or the reverse.

Anemia is determined accurately by a simple counting of the red cells, though it may be suspected in a spread preparation by the fact that there do not seem to be enough red cells in a given field as compared with the number of white cells or in comparison with other preparations spread in the same manner. Certain atypical red cells may mean anemia.

The symptoms of true anemia are not characteristic, but are those of hemoglobinemia—pallor, algor, languor, and so on. But, for this very reason, the blood examination is important, inasmuch as the treatment of anemia and of hemoglobinemia are not identical. Do not look to symptomatology for your therapeutic indications.

The Causes of Anemia

Anemia is treated most rationally by aiming at the cause; and the causes of anemia may be classified roughly as follows:

1. Anemia due to hemorrhage, apparent or concealed. Concealed hemorrhage is, of course, the more dangerous type, and it includes not only types concealed by anatomical relations, but microscopic seeping, as in uncinariasis, malignant growths of the bowel, dysenteries, pulmonary tuberculosis, and renal tuberculosis where the blood may be discovered only by chemical or microscopic tests, but which, continuing a long period of time, constitutes a very grave condition, so that the patient may actually bleed to death without the true cause being recognized. In hemophilia and in severe jaundice the patient may bleed to death, without the exact location of the microscopic hemorrhages ever being ascertained.

2. Toxic anemias. Here the poisons may be introduced from without (lead and so on); or the anemia producers may be manufactured in morbid processes within the body. Under the latter heading must be included not only bacterial poisons but toxic remnants of foodstuffs or body-cells.

The surgeon can sometimes dispose of the first class very quickly, if he can locate and reach the seat of the hemorrhage. It is not always possible to do this, but we are not entirely helpless. Two therapeutic agents have been proposed, namely, normal serum and emetine.

Normal serum supplies active fibrin-ferment and other materials designed to favor clotting of the blood at the seat of hemorrhage. It has been used mainly in cases of hemophilia, but promises much in the future treatment of other types of hemorrhage.

Emetine has been administered especially in the pulmonary cases, but should be given a trial in all cases. Chauffard states that the dose should be small (0.04 to 0.06 Gm. of emetine hydrochloride), and that thus nausea may be avoided. He contends that these small doses are sufficient. It has long been known that emetine will cause blood to disappear from the stools in dysentery, and that so promptly that the action must be regarded as specific, without any relation to the disappearance of the amebæ. It seems very probable that emetine will take the place of the opium derivatives, except, perhaps, in the very acute and urgent forms.

Hemorrhage is, by no means, the more common cause of anemia. Among the toxic causes, I have pointed out lead. While lead poisoning by no means is a very common condition, I am certain that almost 50 percent of the milder cases are overlooked in the routine of practice. In cancer, certain hemolytic bodies may be demonstrated by test-tube experiments, although we have not determined their composition. In nephritis, there may be many causes for the secondary anemia (the hemoglobinemia is usually more marked than is the anemia), but the retention of poisonous salts or acids doubtless plays chief part.

The Calcium and Glycerin Treatment of Anemia

The most important contribution to the cause and treatment of the toxic anemias was offered by Tallqvist several years ago. While working with the bothriocephalus, he found a hemolytic substance that could account for the anemia in those affected. He discovered that this hemolytic substance was oleic acid, and that both its sodium and cholesterin salts had hemolytic properties. This suggested the cause of the toxic anemias in general, and, so, attention was directed to the fatty acids.

Vetlesen (*Norsk Magazin for Laegevidenskaben*) followed up this work, with special reference to pernicious anemia, and secured favorable results from appropriate treatment even in the severe cases. Several years ago, I myself became interested in the subject and have seen it studied in a number of cases of anemia.

In the first place, these fatty acids or acid salts must be neutralized or combined into harmless substances. Tallqvist suggested the use of calcium, which would unite with the oleic acid and form an insoluble compound; and I will here say, before passing on, that calcium, in the form of calcium lacto-phosphate, for example, does seem to be of value and should be tried in every case of anemia (that is, as defined above).

Tallqvist also suggested glycerin (chemically, glycerol, or propenyl alcohol) for binding the oleic acid, this resulting in the formation of harmless glyceryls or esters of oleic acid (oleates). I must confess that I have seen wonderful clinical benefits follow the administration of glycerin in anemia; while Vetlesen's reports indicate his satisfaction with this medication even in the socalled primary anemias.

The glycerin must be pure and, of course, be relatively free from fatty acids. Glycerin is not at present so cheaply secured as it was a few months ago, so that the physician need not fear that he will be using something "common" when resorting to glycerin. These patients usually take the glycerin very well,

indeed. Where it can be borne, give a tablespoonful, with a little lemonade, three times a day; increasing or lessening the dosage as may be indicated by the blood examination rather than by the symptoms, for, it has been stated that the symptoms are not really due to anemia in itself. Startling results are not usually secured at once. The disease may be held at a standstill, and then after a few weeks or months a slow but permanent improvement may be noticeable. If the patient does not become discouraged and will stick to the treatment, he may regain his feet.

A Word About Arsenic-Therapy

Arsenic has won a place in the treatment of anemia; but, it should never be administered for hemoglobinemia, except where the anemia is likewise consequential. The results from arsenic-therapy are more prompt than from calcium or glycerin, but are not nearly so permanent; and the use of arsenic should be followed by calcium or glycerin. The latter agents seem to neutralize the poisons producing anemia, while the former perhaps merely stimulates the manufacture of red blood-cells.

Arsenical preparations are many, and all are good. The triple arsenates or other combinations may be used. I may be a bit prejudiced, but it has seemed to me that better results followed the use of the liquid preparations, providing these were reliable. (Naturally, there is the rub!) Liquor arsenii compositus (Barclay) or a dependable Fowler's solution may be carefully exhibited in increasing dosage, and blood countings be made to check results, if clinical benefit is not pronounced.

It seems to me that arsenic-therapy is too often abused. The increase of blood-cells is followed by beneficial clinical results (if the hemoglobinemia is due to the anemia), and the physician, anxious to gain these, becomes excited and pushes arsenic even at the expense of the hematopoietic tissues. He overlooks the old law of the conservation of energy, and seems not to realize that he but hastens the day of reckoning. He gains results that are gratifying to the patient. The latter lives well for only a brief period, for, the cells thus called out, like the reserves engaged at the beginning of a battle, will be needed later. Massive doses of arsenic in a case of pernicious anemia will stand the patient on his feet within a few hours, but place him in his shroud several months before the disease, left alone, would have done so. Use arsenic; but, drop it as readily when it has served its purpose.

The Use of Hydrochloric Acid

In cases of anemia, and especially in pernicious anemia, it is a rule that the hydrochloric acid of the stomach is deficient or lacking. This suggested to Hess a very rational treatment for all cases of pernicious anemia. Hess reasoned that the red cells might be increased in number and the hemoglobin supplied in larger amounts by administering hydrochloric acid and overfeeding with proteins. Where possible, the hydrochloric acid should be given in large dosage after each meal. In this way, persons having achylia may be able to eat la ger quantities of "rare" beefsteak, eggs, cheese, nuts, and so on. In case the patient cannot be induced to eat large quantities of proteins, it is well to administer the hydrochloric acid with meat-juice, bone-marrow or other preparation carrying a high supply of proteins. Nuclein may accomplish results where all else fails.

Whereas the glycerin and calcium treatments are aimed mainly at the anemia and the arsenic treatment is aimed solely at the anemia, the hydrochloric acid and concentrated proteins are aimed both at the anemia and the hemoglobinemia; and are of especial value where the blood-index shows both conditions to be severe. The same applies to sanguiferrin, although this latter preparation is of more value in a frank hemoglobinemia, inasmuch as it contains nothing (there is some glycerin in the liquid preparation) aiming especially at anemia proper.

Hemoglobinuria

When the laboratory-man reports a low hemoglobin content, certain conditions should suggest themselves to the physician. When this hemoglobinemia can be explained by the fact that there is a marked decrease in the number of red cells, it indicates the presence of anemia together with hemoglobinemia. But in some cases (chlorosis, toxic hemoglobinemia of nephritis, tuberculosis or cancer, for instance), the hemoglobin decrease is relatively marked and the red-cell count not low, the indications for treatment are as follows:

Give iron. This is old advice, certainly, but we yet have much to learn concerning the administration of iron. And what kind of preparation shall we give? I have seen iron used in a number of cases of hemoglobinemia, and my answer may surprise some

of the readers of this journal. While iron is the best of all remedies in the treatment of hemoglobinemia, we never know just which iron preparation is likely to prove best for a given case. It is fairly certain that after a few trials we shall hit upon the proper preparation. Inorganic irons may be of great value in Case A, yet, promptly fail us in Case B. Here, in turn, organic iron may save the day, but lose the tomorrow. Each patient apparently reacts to his special iron; and we are not always able to give a reason for this, although the fact that the hydrochloric acid is deficient or absent in some stomachs may offer a suggestion.

The physician should have at hand several preparations of iron. Even an unethical proprietary may save the day where the ethical ones have failed. I have seen this happen more than once—and the physician should remember that his first duty is to his patient, his second duty to his medical society and his third to the medical politicians that infest some of our organizations. I need not mention these particular proprietaries: if the reader is a successful practitioner, he doubtless knows them well—if I were to list them, some men would conclude that this article were very "unscientific, stupid, and unethical." Neither need I dwell upon the names of the more commonly accepted preparations that are known by all of us—iron sesquichloride (the most efficient and, yet, the most nasty of all irons, and in certain patients producing more harm than good), iron iodide, iron arsenate, Blaud's mass, iron phosphate, sanguiferrin, and so on.

Iron will sometimes fail in hemoglobinemia, but the percentage of failures will be less if the physician gives, successively, the several irons a fair trial. In the exceptional case, manganese may come to the rescue.

Copper Salts of Value

If iron and manganese both fail, I have even a third suggestion, and it may be worth something to you. It has been asserted that this third remedy was introduced because it was found that pale individuals recovered after eating the green scum from pickled cucumbers set aside in brass or copper kettles. Copper acetate has been of some service in several cases where I have seen iron fail. It may be given in connection with iron (always give iron a trial) or after iron has proven worthless. Remember that overdoses of the copper-salt will nauseate the patient. Copper arsenite has never been used in this disease, so far as I am informed. It would scarcely be indicated in frank hemoglobinemia, but might be tried in a case of anemia associated with hemoglobinemia.

It is scarcely necessary to go into the subject of laxatives in connection with any treatment of hemoglobinemia. Of these, cascara preparations stand at the head. Cascara should be given alone, and not included in tablets with the iron, for we may desire to increase or decrease the dosage of one and not the other.

Leukopenia and Its Effects

Have you ever wondered why it is that a patient having typhoid fever is susceptible to abscesses, pyelitis, and a hundred and one other nasty complications such as do not follow other infectious fevers? Perhaps there are many reasons, and I am certain that we do not understand all of them, but we are able to determine in many persons (irrespective of typhoid-patients) whether the "body resistance" is low, normal or increased. Here, the blood examination becomes of great value not only to the practitioner of internal medicine, but to the surgeon as well.

While we have long recognized that a leukocytosis (absolute increase of white cells per cubic millimeter in cases not leukemic) is proof and a measure of increased resistance, we have been slow to grasp the fact that its opposite, leukopenia, means lowered resistance upon the part of the tissues of the patient. Moreover, in certain clinical conditions where his resources are needed, a normal count ot 8500 white cells or a half-hearted leukocytosis may be counted a clinical leukopenia, a fact which can be appreciated only by the physician attending the case and not by the laboratory-man, which latter cannot be expected to know in every case just what clinical proposition the patient is up against. In some cases, he may suspect it, because of the high neutrophilic polynucleosis (mentioned below).

When the index of the patient's resistance is low, what shall we do? This question may be answered according to whether or not the case is operative. In appendicitis, for example, a low resistance, as shown by a leukopenia, along with certain clinical symptoms or a high polynucleosis, should mean quick intervention by the surgeon.

Treatment of Leukopenia

How will the internal-medicine-man treat the leukopenia; in other words, how adjust matters so that directly or indirectly in con-

sequence the number of white cells per cubic millimeter may be increased, providing us a a favorable index? The proposition is not an easy one in all cases, but may be summed up perhaps in the general advice to furnish pabulum as rapidly as it can be used, aid in the utilization of this pabulum by the tissues as rapidly as possible, and remove waste as rapidly as possible. This all sounds good—now what of the practical application?

The Practical Application

1. Providing proper pabulum. This is a big question in dietetics, and food must be selected for the needs of the individual patient, so that this article cannot consider it at length.

2. Aiding the tissues to utilize this food. Consider the question from the mouth to the tissue-cell. Proper food will not be utilized by the cell or in fact reach the cell unless the alimentary tract is in perfect order.

If the patient swallows pus from a pyorrhea or pharyngeal trouble, take care of this. Too many tuberculous patients seal their fate by swallowing their own sputum.

What of the stomach? If it is probable that stomach acids or enzymes are needed, either supply them or stimulate secretion of the same. (I wonder why quinine in small dosage is so efficient in some of these cases?)

What of the bowel? If the colon is gorged with a rotten mass of foodstuffs taken a week ago, you need expect no "team-work" here. Such a bowel cannot properly digest and absorb the needed food-principles not even select them from a mixture of indols, phenols, poisonous gases, bacterial masses, cellulose, and other filth. Do not hope to get pabulum to the tissue-cell if it must percolate through this mess.

Suppose the alimentary digestion and absorption is perfect, can we not also stimulate and otherwise aid the cell to utilize this pabulum? I think that we can. Do not forget nuclein, which stands perhaps first of all in this special indication, being itself a defensive protein and reconstructive and especially needed by the white blood cell. Phosphates, especially iron phosphate, are also of great value, especially where there is hemoglobinemia. Where the nerve capital is low, lecithin in connection with the nuclein is the thing.

3. Removing waste as rapidly as possible. This must be done by the bowel, by the urine, and if necessary by the sweat-glands. Enough said so far as the readers of this journal are concerned—this is an old proposition.

An absolute leukocytosis being proof of increased resistance, calls forth no therapeutic indications. It is of diagnostic and prognostic value, but cannot be considered here.

Even as leukopenia and leukocytosis (variation in total number of white cells) may be regarded as indices of body resistance, so may the relative number of polymorphonuclear neutrophilic leukocytes (shown by differential count) be regarded as an index of toxic absorption. (In infections it serves likewise as an index of the intensity of the infection, inasmuch as the toxins vary in concentration directly with the severity of the infection.) The greater the number of neutrophiles, as contrasted with the percentage of the other types of white cells, the greater is the absorption of toxins taking place; the former being the index of the latter. This relative increase I would term a polynucleosis. Normally, these polymorphonuclear cells make up 60 to 70 percent of the white cells Anything above 75 percent must be regarded a polynucleosis.

Treating Polynucleosis

How shall we treat a polynucleosis? The same surgical considerations mentioned above enter into some cases, but from the standpoint of the internal medicine man the following principles hold:

1. We must prevent formation of the toxins or thwart their introduction from without.

2. We must neutralize and eliminate such poisons as have already been loosed into the tissues.

We know that poisons may be strictly chemical and introduced from without, that certain of them are manufactured in the bowel, and still others are provided by infectious foci. Therefore, the discovery of a polynucleosis demands first of all an accurate diagnosis as to the source of the toxin and its nature; but, as a matter of course, we cannot undertake such a discussion in a paper of this kind. Often at the very outset, however, we may rule out a manifest infectious fever, the taking of chemical poisons, and so on. Where this can be done, we look at once for an explanation of the polynucleosis either to some hidden focus of the infection (teeth, tonsils, sinuses, gall-bladder, lungs, genital organs, and so on) or to a probable copremia. A polynucleosis should always set us searching the urine for indicans.

Cause once found, we all know the treatment—laxative salines, substitution of a

harmless and beneficial bacillus or its products, and the other measures to which I called attention in my articles on the therapeutic indications suggested by the uranalysis.

Mononucleosis

A mononucleosis may be relative or absolute. If relative, we are dealing with a leukopenia, and the indications for this have been given. An absolute mononucleosis, especially in an adult, points strongly to the presence of infectious granuloma, notably syphilis or tuberculosis. It may indicate a tuberculous infection while still latent; that is, before a decision in regard to active tuberculous disease is yet possible. A mononucleosis is the rule in tuberculous adenitis. The laboratory-man must always rule out lymphemia, and must never overlook the point that very occasionally a lymphemia may occur without a great increase in the total number of leukocytes. (Schleip.)

In a tuberculous or syphilitic mononucleosis, the lymphocytes rather than the endothelial leukocytes are increased, and our attention is directed invariably to the lymphglands.

Overlooking the diagnostic importance of the condition, how may we treat the mononucleosis itself? There are two indications:

1. If the condition is only relative, the treatment for leukopenia will apply.

2. If the condition is absolute, we resort mainly to iodine compounds, especially calcidin. Mercuric iodide will be found valuable, as a rule, but of greater worth in the syphilitic cases.

When an absolute lymphocytosis is met with, make a differential diagnosis if possible between lymphemia, tuberculosis, syphilis, and Hodgkin's disease, but use calx iodata and possibly mercury until this diagnosis is made.

Myelemia and Lymphemia

These are discouraging conditions, even to the most enthusiastic therapeutist. The physician is especially helpless in the lymphemia of childhood. Just now you are hearing much about the use of benzol—forget it. Good results apparently follow its use in some cases, but it is usually administered in large doses; and the same objection may be raised here as in the case of the large doses of arsenic in anemia—the patient lives well, but briefly. In other cases, he lives briefly, but not well. "The drug is still in its experimental stage" argue some. True enough, but it has remained there for several years—so has vinegar in the treatment of valvular lesions. Many things are in the experimental stage; but, pray, do not experiment overtime on the poor cuss afflicted with leukemia. Goodness knows his outlook is dark any way you glance at it. If benzol had ever cured any "undoubted case" (as the highbrows put it), I am sure that we should be justified in giving it another chance.

With our present knowledge, the discovery of leukemia is of more diagnostic and prognostic importance than it is of therapeutic moment. When you read over the blood report, "look out for the skunk." The true indications are usually supplied by the degree of anemia or hemoglobinemia consequent upon it or by the symptomatology. There is no known specific for leukemia, so that in all cases of leukemia a better tab may be kept on the disease by the red-cell count and hemoglobin estimation and by the symptomatology than by the leukocyte counts. A certain well-meaning man may report a case showing 60,000 leukocytes on Monday, but 59,999 leukocytes after giving a dose of such-and-such drug. But does this really mean anything?

In conclusion: Iodophilia is the result of toxemia, and, while it is a less accurate index, its meaning is the same as that of the polynucleosis. Eosinophilia, basophilic stippling, and certain other blood conditions are of more diagnostic than therapeutic value. Certain other findings, such as megaloblastic shower, are of prognostic value alone.

THE new (?) therapists are just beginning to learn the importance of intestinal toxemia. "The popular present-day name for this condition," says Willson in his admirable paper on "Cardiovascular Poisons," "is intestinal stasis, and the surgeons are manifesting a cordial interest in Jackson's membranes, Lane's kinks, and similar obstructions as its cause. Our grandparents knew better."

Pons Nasi

Being Some Comments Upon Deformities of the Bridge of the Nose

By Ralph St. J. Perry, M. D., Minneapolis, Minnesota

EDITORIAL NOTE.—A man comes to you with a crooked, flat or otherwise deformed nose. Frankly, it's ugly, and he wants it transformed into a thing of beauty. Now, what can you do for him—and what will you tell him? You want to know, don't you. The answer is—read Doctor Perry's paper. He'll put you next.

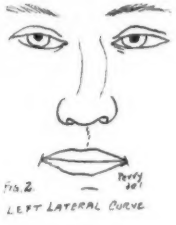
THAT portion of the nose between the root and the tip, known as the bridge, is subject to deformities, either congenitally or as a result of traumatism or disease. Owing to their many forms and variations, these disfigurements have never been classified, although a few simple descriptive words tend to identify or distinguish each one. Deviations from the ideal are either right or left lateral, concave or convex, or some combination of these, as shown in Figures 1 to 8. Lateral and convex deviations, as a rule, are congenital or due to developmental abnormalities, though traumatism is an occasional factor. Concavities of the nasal contour are more often due to injury or disease, though quite a few of these are to be seen in persons above either traumatic or pathic suspicion.

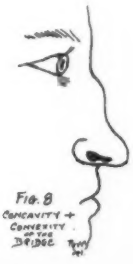
When a case of nasal deformity of any kind presents itself for treatment, the first thing to do is to secure a record of existing conditions, and, while sketches and photographs are good for the purpose, nothing excels the plaster cast; for, a cast shows indisputably the exact size and shape of the organ, the location, nature, and extent of the deformity, and, so, when colored "to life," becomes a facsimile of the nose. The time required to make the cast, or mold, is less than that required for taking a photograph or making a sketch and usually less than that required to convince the patient that the procedure is a harmless and painless one. The method in vogue in my office is as follows:

How to Make a Plaster Cast of the Nose

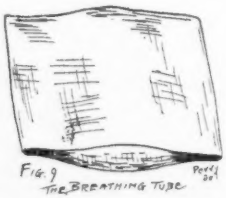
Materials needed: Vaseline, olive-oil, putty or plastic clay, absorbent cotton, two camel's-hair brushes, towel or bathing-cap to protect the patient's hair, apron or towels to protect the patient's clothing, plaster-paris, table-salt, flattened breathing-tube (Fig. 9), plaster-mixing bowl, spoon, spatula, pocket-knife, warm water.

The method: The patient is placed on the chair, table or sofa, recumbent and comfortable, and the apron, towels, and cap are adjusted so as to protect the clothing and hair (Fig. 10). The eyebrows and eyelashes (and mustache, if there is one) are filled and matted down with vaseline; a wall of putty or plastic clay is built up on the face, an





inch high and enclosing the nose, inner half of each orbital region and the upper lip (Fig. 11). The enclosed area and the inner side of the putty ring are now brushed over with a thin coating of the olive-oil, being care-



ful to leave no uncovered spots. The breathing-tube is now placed in the mouth and the patient told to breathe through it, and not to try to breathe through the nose. The nostrils are then occluded with small wads of absorbent cotton—inserted very gently and very loosely, so as not to distend or distort them—and these cotton plugs are brushed over and saturated with olive-oil.

To the warm water, enough salt is added to give it a saline taste, and this salty water is stirred into a small quantity of the plaster-paris to form a thick creamy magma. By an assistant, this magma is dipped with a spoon from the mixing-bowl and poured over the eyelids, eyebrows, and about the alæ and canthi, the camel's-hair brush being used to facilitate the covering of the recesses. In brushing the magma into the folds, wrinkles, and crevices of the perinasal region, do not let the plaster set with a smooth top surface, but roughen it up a little; for, upon this foundation must be built up a backing to strengthen the cast—and a rough top surface gives points of attachment for the several batches of plaster-paris to follow. However, the final layer may be flattened and smoothed off with a spatula, as shown in Figure 12.

Fig. 10. Preparing to make the cast

Fig. 11. Showing preparation of the face.

The patient is now told to "enjoy life" for a few minutes while the plaster sets, being warned that the setting thereof is accompanied by a sensation of heat, muchly perceptible, but entirely free from danger. When this heat has become quite noticeable to the patient, a gentle tapping on the cast will give a sharp, hard sound, indicating that the plaster has set clear through. The putty wall is now removed, the cast sharply tapped, slightly wiggled, to loosen it from the skin, and then removed by drawing it downward and outward in line with the nose. In doing this, lift the cast from the forehead slightly and see whether any of the eyebrow-hairs are caught in the plaster; if so, detach them by passing a probe along over them, for they may adhere to the cast and become de-

tached from the face. Follow the same course with the eyelashes.

The cast is now set aside to dry out, while the patient's face is cleansed. A few hours in a warm room makes the cast almost water-free, whereupon it is ready to be used as a mold from which to make a replica.

If there should appear any palpable defects in the mold, which may cause trouble

Fig. 12. The plaster-paris mask is now applied.

in the casting, they must be filled in with beeswax or some sticky wax melted and flowed in with a dentists' wax-spatula. Too much oil on the face of the mold will cause bubble holes, due to the oil collecting and forming small drops.

In making this replica, the inside of the mold (that is, that part to be filled and covered with plaster-paris) is brushed with a thin coat of olive-oil, then the liquid plaster is spooned and brushed into the mold, and the mass built up until a base at least half an inch thick is secured. (The top of this cast is really its base.) As soon as the cast has fully set, it is removed, a little tapping and wiggling showing the line of cleavage between the mold and the cast; and a knife-blade inserted into the crack readily separates the two parts. Should any of the plaster cream have overflowed and adhered to parts not oiled, it can be trimmed away with the knife.

This replica (Fig. 13) is set aside for twenty-four to forty-eight hours, in order to dry out thoroughly, when it is painted over with a thin solution of paraffin in gasolin and finally colored to nature with theatrical grease paints. If the color scheme of the nose is complex, this may be duplicated upon the plaster with water-colors or oil paints before the coating of paraffin is applied. Any small defects in the replica, such as bubble holes, cracks, and so on, are filled in with plaster cream and smoothed off; rough irregularities are to be trimmed down. Lastly, the replicas are trimmed or squared to shape and marked for identification while still damp, as the plaster then can be more easily worked.

As a rule, we make two or three replicas, one of which is kept as a record of the "before treatment" condition, while the others are used in preparing models of a nose of the shape which the patient would like to have, as well as in studying out the possibilities and probabilities of the sort of nose he can have. Occasionally, to facilitate matters, a replica of the entire face is made (Fig. 14), whereby we are enabled to gauge the proportions, position, and relations of the nose to the rest of the features.

Fig. 13. Here is the completed cast of the nose.

In making these models, all measurements, estimates, calculations, artistic idealizations, speculations, and other brain-work should be gone through with before the plaster cast is touched. Concavities are built up with nose-putty or modeling-compound; convexities, tuberosities, and enlargements are reduced or eliminated by cutting and scraping away. The finished model is colored to life with grease paints.

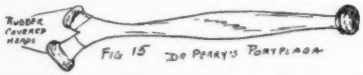
Drawbacks and Other Considerations

While constructing such a model, the surgeon must constantly bear in mind the restrictions that hamper his work; the quality, quantity and location of the tissues at his command; the influences within and without the patient; the limitations of surgical art; lest his own enthusiasm and the importunities

Fig. 14. A replica of the entire face.

of his patient lead to the construction of an ideal which cannot be reproduced in the features of the patient. While it is true that many of the results of cosmetic surgery are most gratifying and often amazing as artistic triumphs, it is equally true that not a few results are most grievously disappointing and bring down wrath, anathemas, condemnation, and even brutal cuss-words upon the head of the well-meaning surgeon who was overzealous in his prognosis.

One cruel fact that has been noted in this plaster-paris modeling of noses is, that the



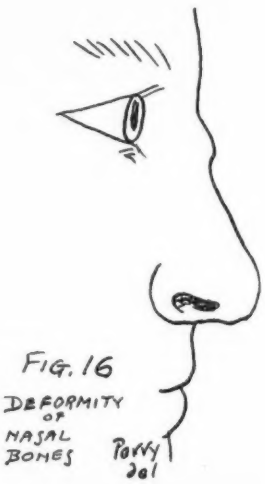
feminine nose differs not at all from the masculine as to relative size, proportions, and shape; whatever differences there may be can be attributed to finer texture and color of the skin—owing to weather-beating on the part of the male and better care and toiletage of the female. By which assertion it is intended to convey the idea that some women have large, coarse noses and that some men have dainty, refined probosces.

To illustrate some of the methods of treatment employed in the several forms of nasal-bridge deformities, let me adduce a few illustrative cases.

Correction of a Deflected Nose

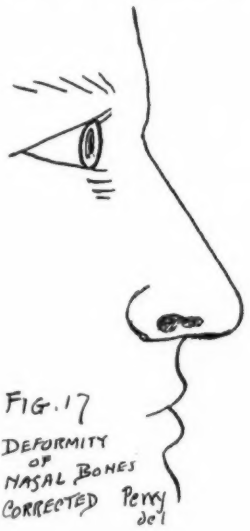
Case 1. A right lateral deflection of the nose, without any history of traumatism. An examination showed a slight dis- or misplacement of the nasal bones, which may have been congenital, but most likely followed some forgotten injury in childhood or perhaps during infancy. There was also some deformity of the septum.

By means of submucous methods, the septal trouble was overcome, so that upon the straightening of the nasal bones the septum would come into normal relation with the other parts of the nose. Next came the task of bringing the nasal bones back into proper position. This may be done by using Ash's forceps to break the bones loose from their maxillary articulations or by using a lead mallet and breaking them loose by sharp blows upon the sides of the nose. These blows are not delivered directly upon the parts, but are transmitted through some intermediary substance. Some operators use a wooden block for this purpose. For some time past, I have been using what I call a portplaga, as illustrated in Figure 15 (*porto*, to carry; *plaga*, a blow or stroke); an instrument which I devised for this purpose, and which is most convenient and useful in transmitting the force of a blow to a circumscribed region or in some special direction or to some spot difficult of access.



Having loosened the articulations, manipulate the bones into their proper positions and relations in the median line and maintain them there by means of an external splint. The Cobb splint or Eisendrath's modification thereof forms a fine splint for this purpose, as it is adjustable to the individual requirements of any patient and can be used repeatedly. The case is now treated as any other fracture of the nose would be.

In many cases of lateral misplacement of the nasal bones, there is a lateral deviation of



the septal cartilages and other soft parts; in which case these conditions are to be met and overcome as detailed in a previous article. (See CLINICAL MEDICINE, Aug., 1915.) In cases presenting a double curvature or a twist, the deformity is treated by operating upon both deviations at the same seance, bringing the parts into correct relation and then applying the Cobb splint.

A Case of Congenital Concave Nose

Case 2. A concave nose of the congenital variety, several of the subject's brothers and sisters being similarly adorned. The personal history as to traumatism, tuberculosis, and syphilis was negative, and, as the tissues were in good condition, it was decided to remedy the defect by implanting a cartilage graft from the rib.

Across the bridge of the nose, on a line with the pupils, an incision was made. This incision is made slightly above the place where spectacle bows or eyeglass mountings will rest or press in after years; for, I have seen several cases of epithelioma which I felt sure had arisen from the irritation of these optical adjuncts. The dissection consists in an undermining of the skin, and extends half an inch above the cut and as far below as may be necessary to include the concave area; and it is effected, without enlarging or unduly stretching the initial incision, by the use of specially shaped plastic-surgery knives. This wound now is covered with a protecting pad of warm moist gauze.

Through an incision over the cartilage of the eighth rib, a piece of cartilage of sufficient size is removed and then placed in a bowl of warm, sterile, normal saline solution. The costal wound is then closed again.

From the plaster replica and model, the surgeon previously has formed a fairly accurate idea of the exact size and shape the graft should be. With scissors and knives, the piece of cartilage is cut and trimmed to meet these requirements and when ready is

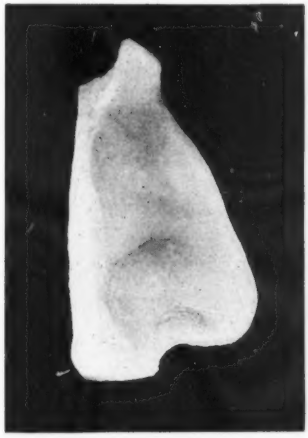


Fig. 18. Side view of a nasal cast.

slipped into place into its destined site underneath the skin. There should be from a quarter to half an inch of the graft above the incision and the rest below it. Carefully adjust the graft, to insure the best possible cosmetic effect, and then firmly anchor it to the *underlying* tissues by means of fine catgut sutures or with steel pins. If the graft seems too large or of incorrect shape, do not hesitate to remove it and trim it into correct size and shape. Having anchored the graft, the wound is closed cosmetically, dressed artistically, and the parts are allowed to heal by first intention.

Grafts of this kind occasionally excite a hyperplasia or may be absorbed; and these are sequellæ which the surgeon cannot foresee, cannot prevent, cannot control, and cannot always satisfactorily overcome, hence, are possibilities which the patient must understand.

Exceptionally, Paraffin Prothesis Is Indicated

Case 3. A nose presenting a small but well-marked concavity, large enough to cause

FIG. 19
SHAVING AWAY THE "HUMP."

mental perturbation, but, yet, not large enough to justify a graft. The case is one of the few suitable for paraffin prothesis. Under aseptic conditions, using a special paraffin-syringe and a properly prepared cold paraffin mass, a small quantity of the latter is implanted under the skin and manipulated into such shape and position as will obliterate the disfigurement.

Personally, I have an antipathy against the promiscuous use of paraffin in cosmetic work, because I have seen so many cases where disastrous sequellæ developed after the work had been done—sometimes months afterward—and which were due solely to the paraffin. Hyperplastic growths, color changes in the skin, and dislocations of the paraffin implants are the commoner causes of complaint in cases which have come to me to have the paraffin removed or for some other remedial operation. And these adverse results occur in the work of those presumably expert in the technic, just as often as when done by amateurs; they seem to be owing largely to causes as yet little understood.

Case 4. A case presenting a malformation of the nasal bones, as shown in Figure 16. The nasal bones have no muscular attachments, being intended to give form and strength to the nasal cavity, and any deviation from the typical normal may be regarded as a malformation, even though there be no disease or displacement. In this case, the overdevelopment is so marked and so at variance with the ideal and with the other parts of the nose that necessarily a deformity results. To remedy this cosmetic defect, a median incision was made over the bones, through this the superabundant bone was chiseled away, and the fresh bone edges were smoothed up with a bone-burr or a bone-file. The wound was closed cosmetically and an aristol dressing applied. The final result is shown in Figure 17.

Eagle Beaks and Broken Noses

Case 5. A case of "Roman nose" (Fig. 18), from which the owner desires to have the convexity eliminated. Here, the osseous factor enters only slightly, and because of the cartilaginous element it is one which lends itself very favorably to the subcutaneous method of operating.

A small incision is made into the subseptum, near the tip, and the opening extended upward, subcutaneously, by means of a two-edged pointed knife, until it reaches just above the beginning of the "hump." A

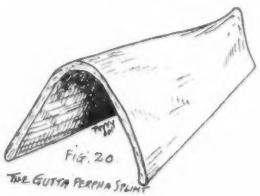


FIG. 20
THE GUTTA PERCHA SPLINT

spoke-shave is now passed up and the superfluous cartilage trimmed away (Fig. 19). If it is necessary to remove any bone, this can be done with the small chisels. When sufficient tissue has been removed to reduce the nasal contour to classic proportions, the cavity of the wound is cleansed, swabbed with aristol powder, and the external opening closed with a single fine stitch. The loosened parts are kept in apposition by means of a splint of sheet guttapercha (Fig. 20), molded to shape over the model, and kept in position by means of zinc-oxide plaster strips.

Case 6. A case of broken nose, with the usual consequent deformity following the usual expectant treatment. As a matter of fact, very few "broken" noses are really more than dislocations of the nasal bones, and the failure to replace the bones immediately results in the broken contour. Adhesions eventually develop, so that, when in later years the patient comes for a cosmetic operation, it becomes necessary to break up or cut away these malunions. This can be accomplished by the use of the Ash forceps or, in aggravated cases, by cutting with a chisel, the instrument being introduced through a small incision at the side of the nose. When loosened and restored to place, the parts are held in proper relation by means of the Cobb splint.

Case 7. "Broken nose." Here, the bones not only are badly displaced, but the septal cartilages are so distorted that the entire upper part of the nasal cavity is occluded by the hyperplasia consequent upon the traumatism. Several methods of operating have been devised for opening the nasal cavity to remedy such a condition or for the purpose of removing neoplasms, and the one which appeals to me as giving the best cosmetic results in this case is that of Rouge.

The upper lip is drawn up, an incision is made along the gingival junction and as much of the nasal structures loosened from the superior maxillæ as is found necessary to fully expose the field of repairs. With a free hand and a clear field of observation, the surgeon may now dissect, chisel, and cut until the structures are fixed to his liking. The nasal tissues are then replaced and carefully sutured with fine catgut; the labiogingival incision is closed with horsehair or fine silkworm gut. A retention-splint of molded guttapercha should be worn for several days. Such an operation leaves no visible scars.

Proper Care of Automobile Tires

Suggestions for the Doctor Who Owns a Car

By A. L. Benedict, M. D., Buffalo, New York

MOST automobiles placed on the market are equipped with tires of good quality, and, so far as personal experience and observation go, there is comparatively little difference between the various tires recognized as standard. As to those not so classed, one can find some of equally good quality; but, others are very poor.

To begin with, an automobile tire should be reasonably thick and heavy and smooth on the inside. The rubber itself should be rather hard, but not to the degree of presenting a brittle surface, nor so soft as to be cut by a stone unless the latter is very hard and presents acute angles. There is not so very much difference between inner tubes. Minor blemishes do not count for much, so that a cheap "second" tire frequently may give good service proportionate to its lower cost.

What should be expected of a tire? As a rule, roughly speaking, one of small size should last on an average for about a 5000-mile service, and inner tubes about two or three times as long. Obviously, the larger the diameter of a tire, the fewer number of times any given sector of it comes in contact with the road for each mile; hence, larger tires wear longer than smaller ones, although not proportionately longer with reference to the cost. The same statement as to increased durability holds good as to the section, or caliber, diameter, but merely because such tires are usually thicker and stronger. Comparing small and medium-size tires, the latter should wear about 50 percent longer and cost about twice as much.

The average mileage-cost for small tires, including inner tubes, should be just about 1 cent a mile for the four wheels. If the rear wheels have tires of greater lumen, they will last a little longer, so that the average is just about 1-4 cent a mile a tire. There will be enough saving on this average for outer shoes to cover the expense of inner tubes. Medium-size tires cost about 1 1-3 to 2 cents a mile per set of four, and the expense increases for large cars, which practically always need corrugations on the surface of the tires, up to about 10 cents a mile for the set.

Oversize Tires

Many assert that manufacturers put out cars with the cheapest (that is, the smallest) tires that will support the weight with a fair degree of satisfaction. Hence, they ad-

vocate using oversize tires. On the other hand, oversize tires are more difficult to remove and replace, and it is a fair assumption that the manufacturers know their business. Oversize tires certainly cost more, absolutely. Whether they cost less relatively to mileage is an open question.

For heavy cars, corrugated-tread tires are undoubtedly a safeguard, perhaps a necessity. They cost more initially, and they wear smooth so, that, when corrugations are really needed, the tires in use must be discarded before they are actually worn out. The corrugations do not entirely take the place of chains, while chains are particularly hard on this kind of tires. For small, light cars, plain, smooth tires are the cheapest, the easiest to repair, and perfectly safe if one will use chains when necessary. Except for soft mud, deep snow, and icy ruts, chains are not necessary for a small car, if one will limit the speed to 15 miles on straight city running, run into neutral at not over 10 miles an hour for turns or on approaching a crossing, or at any time when a quick stop may be required. With these precautions, chains are not necessary simply on account of rain, light snow or ice in the absence of ruts, unless there are heavy grades.

Tire-stuffings of every kind have proved unsatisfactory. They are heavy and speedily lose their original elasticity. Except for guarantee against trouble in an emergency, such devices do not save expense. Solid and cushion tires are heavy, do not prevent jarring, and, hence, tend to loosen bolts and screws, and are especially wearing on the engine. As to puncture-proof pneumatic tires, there is, in the first place, no such thing; in the second place, while a virginal tire is highly desirable, a mechanic insurance of virginity involves undesirable features.

The only thing in nature that approaches perfect elasticity—remembering that the word theoretically and practically implies instant recovery of shape, rather than softness and gradual restoration of shape—is a gas under pressure. There is no satisfactory substitute for the pneumatic principle, and there is no method so perfect as to secure absolutely against leakage.

Tire leakage may be classified under the head of (1) punctures, (2) blowouts, (3) valve defects, and (4) miscellaneous causes.

Punctures

Punctures may be largely avoided by watching the road; encouraging and practicing the habit of picking up nails, and the like; avoiding macademized state roads, which have been said to be paved with Indian arrowheads and oil; and avoiding, if possible, the rear approaches to garages and repair-shops and to farm-buildings. After running over glass, state roads or any other suspicious pavement, inspect the tires and pick out bits of glass, stone, tacks, and the like, if any are found, as these may work in deeper. When a puncture occurs, stop immediately.

The beginner may not be aware of a puncture or flattening of a tire, especially if he is on the front seat and the trouble is with a rear tire. Any sibilant or explosive noise is significant, and there is a peculiar bumping that is not of the same tempo as the kicking of a unit of the engine, but more regular than the accidental bumpings caused by a bad road, although almost exactly imitated by certain wavy brick roads. If the tire sticks, run a few feet further on the flat tire, but only after removing the cause of the puncture. One of the writer's friends boasted that he could run a whole evening on a flat tire without sustaining any damage; shortly afterward, however, a garage-man told of mending seven separate punctures from the same nail in his tire. Occasionally, by good luck, the puncture can be readily located, in the upper part of the tire, and the leak in the inner tube repaired with a gasolin patch after removing a small segment of the outer tube, without even using the jack or removing the valve stem.

Always look for a puncture on the opposed surface of the inner tube. A large opening in the tube or a multiple puncture is better treated by vulcanizing. Remove the entire inner tube, put in a new one, and make the repair at home or at a garage. If the wheel and tire are dusty or muddy or wet, make clean before removing them, using a brush, duster or cloth, according to circumstances. If any dirt, broken glass, pebbles or the like has come between the outer and inner tubes, or if the talc has caked, wipe it out. Sometimes, the finger will detect an imbedded tack, broken needle or spicule of flint, which will cause fresh trouble, and it may be that such a lesion is the real cause of the puncture and that a nail, large sharp stone or cut without a foreign body has not penetrated. Never replace the outer shoe until the inner tube has been dusted thoroughly with talc and inflated, so that it presents no creases to catch under the rim.

Blowouts

Blowouts are due to defects in the outer tube. While they often start from a puncture

that admits water and gradually allows rotting and fraying of the fabric, they may occur without any lesion of the protective rubber covering, and may consist of a rip along the edge of the beading. The inner tube may explode or may receive a minute puncture through a hole in the outer tire that is not large enough to threaten its retaining strength directly. A good-sized blow-out practically ends an outer tube. Unless caused by a local defect in an otherwise good and little-worn tire, it does not pay to repair them by inserting a new section, retreading, sewing two tires together or by any other device that costs any considerable amount. Such repairs do not usually give additional mileage proportionate to the expense, especially if we estimate the value of the old tire as junk at 50 cents, or 200 miles, and if we bear in mind the increased vulnerability and labor involved in using an old tire.

The ordinary blowout patch is of value to prevent a blowout following a puncture, or to allow a few more miles to reach home, but it is worthless in case of a good-sized blowout. Blowout patches that are really efficient, that will give as much as 500 or 1000 miles additional service, and that will allow a tire to hold till the hole becomes almost 2 inches in diameter, but which are not of much use against a longitudinal rip along the beading, may be made as follows:

Cut an old outer tire into lengths of 1 to 2 feet, rejecting parts that are much damaged. Cut off the beading with a heavy sharp knife, beveling with the first cut so as to leave a fairly sharp edge. Bevel and round off the ends similarly, so that the rubber-covered portion is shorter than the fabric. By holding the edges and ends between two pieces of board, with about 1 inch of tire projecting and then clamping in a vise, complete the beveling with the knife and rasp so that the patch, as spread, has a broad surface of fabric, frayed soft at all edges and projecting a little beyond the rubber. The rubber need not be cut off except along the edges and ends.

These blowout patches are stiff and thick enough to hold the tire for a good many miles and can be used over and over again. Do not make them too short, both because a blowout needs a good deal more protection than appears possible to the novice and particularly because a short patch will twist and cause further ripping and will bump on the road.

Valve Defects

Valve defects are naturally thought of when a tire leaks gradually or after repairing a puncture. They are not, however, very common, the chances being in favor of a concealed puncture as from a spicule of flint or pin or the like imbedded in the outer tire and not visible. On the road, they are easily detected by the spit test, that is, simply wiping a little saliva over the valve-cap. Sometimes the valve-plunger projects, so that when the cap is applied it is forced down. If it is cut off short, however, the tire-gauge will not register. Sometimes the valve is dirty or gummy or the spring is caught. Unscrew it, using the top of the cap as a screwdriver, and wash it with gasolin. Sometimes the valve leaks around the screw-thread. A little vaseline will remedy this defect, although it is likely to gum up the plunger later.

At home or in the garage, valve leaks are best detected by turning the wheel so that the valve-stem projects directly downward and then inserting it into a small test tube or vial containing gasolin. Always carry a few extra plungers in reserve, but not more than for the extra inner tubes necessary, as the plungers deteriorate. When one is found defective, throw it away, so that no one can find it again; and, in buying at garages on the way, be sure that a mechanic does not sell you a plunger that someone else has discarded.

Miscellaneous Causes of Leaks

I have had one tire that blew, not out, but off the rim. Such an accident seriously injures the inner tube. It results from an original defect either in the tire or the rim. An inner tube may chafe in its carrier. To prevent this, deflate thoroughly, fold three times, smoothly, cover with an old stocking, arrange the valve-stem and metal piece pointing outward, then inclose in paper or rags, and now insert into the regular carrying-case. Two inner tubes may be put into such a case if care is taken that the metal parts do not chafe the other tube. Never carry extra inner tubes in the original pasteboard boxes. An inner tube may also gradually puncture against a rough seam in the outer tube or against grit or caked talc.

If partially inflated, as previously mentioned, before inserting and if reasonable care is taken with tire-irons there is little danger of injuring inner tubes by removing and replacing tires. If, when an inner tube is removed, it shows markings, look for the cause on the inside of the outer tube or the rim. For example, a hole in the rim may be filled with putty or also a rough seam may be covered with a piece of cloth or a rubber patch, or a ridge may be rubbed down.

One of the meanest leaks is due to separation of the valve-stem from the inner tube. This can usually be detected, like any small leak, only by immersion in a tub; or, rather, if it is easily detected, it is difficult to repair it. If the leak is small, unscrew the parts holding the valve-stem and slip a patch over the stem, making the hole in the patch as small as possible. Do not try to use a gasolin patch for this purpose, but use cement, freshening opposed surfaces with sandpaper and gasolin. Screw the parts down on the valve-stem while the cement is fresh and hold the edges down until the cement has set.

Emergency Outfit

Remember that your leak may occur in the mud and after dark. Be sure to have some available source of light. If you have a storage battery, a trouble-light is easily arranged for, and it may be carried in a mailing-case. If not, you cannot very well keep your engine going to run your light during the time occupied in repairing a leak. A pocket-light or one-dry-cell lantern will answer fairly well. At least make sure that you can unscrew a kerosene lamp. Always keep overalls or an old suit of clothes in the car, also rubbers; besides an old piece of rubber sheeting or oilcloth or, at least, a few newspapers to put down on the dirt. Besides the ordinary outfit, you will often need a third tire-iron, for a stiff tire, and two forceps, with which to separate the two parts of the dustcap. Then, sandpaper, a bottle of gasolin, extra patches, cement, clean rags, blowout patches, brush, talc, and tire-dough will be needed; also a large round nail or some similar piece of metal for applying the tire-dough and for cleaning cuts in the outer tube.

Inclose the gasolin and talc in mailing-cases or some similar strong box, to prevent breakage and leakage, and assemble all necessities for this work in one receptacle, such as an old satchel or large box. Put all parts where they cannot get lost or blown away or stepped on, or, if you have plenty of passengers, make each responsible for a set.

General Hints as to Repairing Tires

Solutions of rubber (?) are sold, with the idea that by weekly applications with a brush the wear of the outer tire may be compensated. You will probably buy only one can, and what is left of this may be used on a fence. Gasolin vulcanizers are good for repairing inner tubes. I have never succeeded in vulcanizing scrap raw rubber into holes in outer tires. Unless for a tour, vulcanizing should be done at home, simply changing inner tubes on the road or using gasolin patches.

In vulcanizing over a large hole or long cut, where patching is not practicable, be sure to introduce talc within the tube to prevent sticking of opposed surfaces. This is not likely to occur in case of a small puncture, where the vulcanizer is used as an alternative to the gasolin patch. If, however, the talc has been forgotten or neglected because the vulcanizer has been sold with the assertion that it is unnecessary to introduce talc, the stuck surfaces can usually be worked apart by rubbing and picking under moderate inflation. Cement will be used for patching around a valve-stem to close, watertight, a hole through the outer tube, and for setting tire-dough. It is not usually wise to spend too much time in using tire-dough for small cuts that do not penetrate to the fabric. Tire-dough is excellent, however, for repairing deep cuts and lacerations into which the finger can be introduced.

The secret of success lies in thorough cleansing with gasolin, applied on a fine rag over the end of a blunt nail or similar piece of metal. Be careful not to puncture the inner tube. Wipe until the rag comes out clean. Then squirt in some cement and work in the tire-dough, previously softened with gasolin to the consistence of masticated chewing-gum or putty, using the nail to squeeze it in, and finally patting and rubbing down with the blade of a knife—a spatula-blade being superior.

It is better not to run the car till the cement has set. This, of course, does not help the fabric, but simply keeps out foreign bodies and water. If the hole in the fabric is more than a stone prick or small nail hole, insert a canvas patch. For large tears in the fabric, use a patch from an old tire, as described.

Tire Conservation

The writer is not particularly impressed with the idea that a puncture through the outer tire leads to rotting of the fabric from admission of water. Blowouts may appear at other places, while the fabric around an old puncture remains intact. In dry weather, the tire is likely to be used up before rotting occurs, but in rainy weather and in spring, while only a few miles a day are run, rotting from dampness is a serious factor.

Neither is underinflation, not of a degree to be easily observed by inspection or kicking the tires, a noticeable cause of de-

preciation. A writer in *The South African Medical Journal* tells of good mileage made at an average pressure of 45 pounds instead of 60, with much running over roadless regions. Neither do tires heat noticeably or increase the pressure by rapid running. An old or weak tire should not be inflated to within 10 pounds of the standard pressure. Overinflation, which is common with storage tanks and at the hands of mechanics, may rupture the fabric in a moment. No garageman will admit this, but he will ascribe the subsequent short mileage to underinflation. However, it is wise to maintain the standard pressure for new tires and to test—and inflate if necessary—at least every week; using the tire-gauge, and allowing one pound per stroke of the foot- and hand-pump and watching machine pumps or tank pressure carefully.

Overloading is a marked cause of tire wear. Passengers do not realize this fact and are prone to consider that the number of persons and suit-cases that a car can carry is limited only by bulk. Overuse of brakes is also a considerable factor. Remember that the brake ultimately acts between the rear tires and the ground and that, if the wheel slides from sudden braking or because it cannot hold against mud or ice, the tire is being shaved down. The effect is immediately visible. There is so much less rubber to protect the fabric and the latter has also been strained and heated.

Wire wheels are said to diminish the strain on tires. The only objection to them is initial expense and difficulty of cleaning. Shock-absorbers and graphite and oil between the leaves of springs save the tires just as much as they do the riders—perhaps more, because the tires are being hit between the ground and the heavy weight of the car.

A small clincher-tire can be removed as easily as a demountable rim. A detachable wheel saves time on the road, but the ultimate repair of a tire must be made sometime and by somebody. If you do the work itself, you lose whatever additional time is necessary in changing wheels. Covers for outer tires, interlinings, extra-weight inner tubes, and the like may lessen the danger of actual leakage of air at any given time, but, on the whole, they cost more than they save in mileage.

Alinement of wheels is an important matter in saving tires. Unless there has been a collision or heavy jar, the rear wheels do not easily tend to get out of allinement; on some cars, the front wheels do so very readily, require frequent measurement between the front and back of the circumference of the rims, at the level of the axle—which requires more skill and training than appears—and adjustment of the rod governing the distance. This is particularly true of cars stamped out like coins. Alinement should be tested by a reliable mechanic shortly after purchase and after any collision or strain or, if the ball-and-socket joints rattle at all.

A Suggestion

In conclusion, it may be suggested that it is better to get an average of 4000 miles from tires, and have comfort, than to get 5000 miles, with constant worry and effort. Do not believe all the statements made by professional advisers of motorists, nor waste too much money in buying devices supposed to prolong the life of tires. Do not try to squeeze a few miles extra out of a tire, and damage an inner tube, besides giving yourself the work of an additional removal of a tire. I have done this twice, gaining 10 miles, 2 1-2 cents, and losing a patch in one case; gaining 2 miles, 1-2 cent and spending 50 cents for vulcanizing a split inner tube in the second case. This is not economy, not even successful stinginess.

(*To be continued.*)

I LOVE to see enthusiasm. A man should be enthusiastic about that in which he is interested. I would not give two cents for a man who works for money alone. The man who doesn't get some comfort and some enthusiasm out of his daily work is in a bad way. Some men are almost irresistible—you know that. It is because enthusiasm radiates from their expression, beams from their eyes, and is evident in their actions.

What the General Practitioner Can Do in the Treatment of Chronic Diseases

By GEORGE F. BUTLER, M. D., Kramer, Indiana

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[*Continued from page 233, February issue*]

AS a cause of extreme *wasting of infants* having diarrhea and vomiting, Keller has suggested *acid intoxication from the intestines.*

Diarrhea is sometimes associated with an increase of intestinal decomposition. Hanot and Bouchard looked upon the enlargement of the liver, which frequently accompanies chronic dyspepsia, as a result of intestinal intoxication; founding their theory on animal-experimentation by Boix, who claims he produced *cirrhosis of the liver* by giving, for a prolonged time, food containing acetic acid and butyric acid.

Chlorosis, and certain forms of *anemia*, are, most closely of all blood diseases, related to decomposition in the intestines. It is well known that chlorosis is often accompanied by a tendency to constipation, and this symptom—or rather the hypothetical decomposition process which attends it—is, according to many authors, the fundamental cause of the disease.

We must also admit the clinical coincidence of gastrointestinal wrongs with *skin eruptions.*

The nervous system displays most of the highly varied symptoms that clearly result from intestinal decomposition. At one end of the chain, there is simple headache, and at the other end stand coma, convulsions, collapse. The most common forms may be considered under these headings: First, the general phenomena common to severe constipation; second, tetany; third, epilepsy or eclampsia; fourth, psychoses.

Included in the general phenomena observed in severe constipation are the nervous symptoms which accompany *chronic,* or habitual, constipation—an out-of-sorts feeling, headache, lassitude, neuralgia, giddiness, ill-humor, and so on. *Tetany* is doubtless due to decomposition in the stomach. *Epilepsy* and *eclampsia*, having been sometimes associated with marked acetonuria, Von Jaksch and Lorenz and others have ascribed their cause to intestinal autointoxication. As for *psychoses*, there has been much discussion lately, especially in France, anent the connection between it and intestinal decomposition, and out of this has sprung the generally accepted doctrine of "visceral psychoses."

We often see patients complaining of debility, who tire easily, are irritable and despondent, yet, in whom we can detect no organic disease. Nevertheless, their symptoms and their dusky complexion point unmistakably to autointoxication—effete matter in the blood in excess. The lips are blue, the features blurred (like an indifferent photograph), while little arterial twigs can be seen on the cheeks and nose, suddenly piercing the skin and pervading its surface, their distended condition telling of arterial fulness. The arteries are usually thickened and sometimes are hard, the blood pressure being increased. The heart is often enlarged; being hypertrophied or dilated. The urine shows a high degree of acidity and a large amount of indican. The bowels are usually constipated or they may, at times, be irregular, as the muscular fiber of the bowel shares in the malnutrition of all the muscular tissues. Flatulence is not rarely also present; and this adds to the disturbance of the heart, producing palpitation, breathlessness, and nervousness.

After many years' experience in the treatment of chronic diseases, I am of the opinion that no chronic disease can be successfully treated without a great deal of attention being given to the gastrointestinal tract and to the eliminative organs generally. The bane of sedentary life and the principal cause of chronic diseases—more important even than pyorrhea or pus in the tonsils—are visceral inertia, constipation, and autointoxication.

Gout, arthritis deformans, psoriasis, the socalled diseases of metabolism generally, are all aggravated, if not directly due to the above-mentioned conditions. What is diabetes? A disease due to dangerous disturbance of metabolism. Its treatment? Proper diet. What is Bright's disease? Crippled or overworked kidneys on a strike, caused in the majority of cases by excess in eating—especially of the proteins—worry and pessimism; and its remedy, as well as prevention, is: less flesh, less fret and fume, and more fruit and fun.

In the granular kidney, it sometimes is a question whether to call the disease gout or Bright's disease. The theory that the minute

blood-vessels supplying the kidney are plugged up with bacterial emboli—that nephritis is purely an infective process—may be true, but I believe that renal degeneration may be a consequence of long-continued elimination through the kidneys, of products of faulty digestion.

If these products are cast out of the blood, the kidneys suffer and become granular; if they are retained in the blood, they may set up gout or arthritis deformans; in many cases, both the kidneys and the joints are affected. According to the stage of the malady, we might speak of the "liver being at fault" or of "renal inadequacy" in the early stages; or "this is a beginning arthritis deformans," or "the arteries are atheromatous," or "the kidneys are diseased," or "there is gout," or "arthritis deformans" or, finally, "chronic nephritis" is present, according to the prominent state or the point from which the complex pathological process is looked at. One doctor might choose one phase, another prefer another, and each be right. Consequently, when I hear that such a person has "Bright's disease," I begin to speculate, "what is the matter with him?"

The condition of the gastrointestinal tract, elimination, diet are all such important matters in the successful treatment of chronic diseases that you will bear with me, I am sure, if I devote considerable space to these subjects before taking up the treatment of the various chronic diseases.

The Problem of Diet

As soon as we have accepted—as we must at the outset—the scientific (and, as well, the moral) dictum that "so much of food and drink is to be administered to a patient as will refresh and not oppress the powers of the body," we are at once confronted by what appears to be an impossibility, namely a correct estimation of the different nutriments and their respective digestibility, in addition to the digestive capacity of each individual.

But, at this point we must remember that the practice of dietetics rests upon the accumulated experiences of mankind, that it is not a new problem to be solved by a series of algebraic equations, but that much of this knowledge has already been made available for us through a long acquaintance of the human mind with its practical aspects; and, furthermore, that out of this ages-long familiarity there has emerged a first and all-important law for our guidance, which law is that enjoining temperance—a word which stands for the affirmative "*enough*" as strongly as it does for the negative "*not too much.*" However much in the dark we still may be as to the proper course to steer between these landmarks, we do know that the landmarks are there; and this is the first essential step toward finding them, even though we already know that their positions in the life-stream vary with the passing of every vessel between them.

To begin the consideration of this question at its logical basis, we should doubtless understand, as a premise, that the subject of diet neither stops nor begins with the individual, but that the life of the race is alone the proper criterion, and that only the future can speak with authority of any present deviations from such rules of diet as have been established by our fathers by testing, rejecting, adopting. For, it has already been shown that a diet that may make for a seeming full vigor and well-balanced living in one generation may not, in actuality, suffice to carry on the germ of full vigor to the next generation. Of course, it would appear, at first glance, that a vigorously nourished organism would be better able to procreate its like than will an organism of inferior energy; but, experience demonstrates that the vigor of the parent cell, the germ-cell, may be something quite different from the vigor of present living tissues and organs; the latter merely exhibiting in detail the powers peculiar to each, while the parent cell combines and concentrates within itself the potencies of a whole organism. Consequently, it is anything but an unusual occurrence for the physically and mentally weak to spring from the loins of the apparently physically and mentally strong. That science cannot escape or evade these fundamental facts, adds immeasurably to the complexity of the subject of dietetics; for, it is food that has formed the soil from which all men have sprung, be they weak or strong.

The Amount of Nutriment Needed By the Body

The lowest estimates of the food necessary for the human body put the proteid required at about 29 Grams. In order to supply the calories required for the various vital processes and to make up the loss of heat by evaporation and radiation, there must be consumed about 50 Grams of fat and 300 Grams of carbohydrates. Although every Gram of fat is, theoretically, worth somewhat more than 2 Grams of carbohydrate, there is so much lost, through natural lack of digestive power, when the limit of 100 Grams of fat is reached, that this ratio fails; and a ration of

150 Grams of fat is attended by great waste and also by disturbance of the digestive and absorptive power in general, while in addition there is the possible danger of poisoning from fatty acids and the formation of acetone. Therefore, leaving out water, salts, iron, and the like, the organic requirements of the body must, actually, amount to much less than 500 Grams of water-free chemically pure proteid, fat, and carbohydrate; and this allows for reduced oxidation in disease, and a liberal supply of external heat and use of clothing, to preserve the internal heat.

Now, the first point in combining a diet (taking for granted this knowledge of the average needs) is, to ascertain the previous feedings and habituations of the patient. There is evidently something that he has been taking that should either be stopped or modified; though this does not always follow. As a rule the articles of diet that come in for prohibition are the semimedicinal ones, principal among which are: (1) Alcoholic beverages, tea, coffee, chocolate, tobacco, spices, vinegar; (2) foods that are too hot or too cold; (3) those containing oxalates or other toxic chemicals; (4) those rich in purins; (5) foods tainted and fermenting or rancid (6) those containing excess of innutritious substances; and (7) those which, though good in themselves, would work against a proper metabolism in this particular person.

Write Your Dietetic Prescriptions

It is as necessary to follow the plan of a written prescription in dietetics, as it is in drug-therapy, bringing the formula into terms of proximate principles. From the practical standpoint, these include water, sodium chloride, iron, iodine (as in thyroid extract, lecithin); the three organic nutriments—proteid, carbohydrate, fat; and gelatin, as a substitute fuel-food. In theory, and to some extent in practice, the following must also receive consideration: calcium, magnesium, potassium, sulphates, phosphates, purins, and extractive matters generally; and besides these, as more or less inevitable accompaniments of raw-food materials, various toxins and innutritious substances. Unless we are dealing with a lack to be made up, as in anemia, or with a surplus to be taken off, as in obesity; or, unless some particular metabolic disorder, such as diabetes, makes bad that which is usually good, the prescription can be formulated approximately in the following terms, whatever the character of the disease:

Water, 2500 Cc. (about 2000 Cc. as such, or at least in the form of some watery beverage);

Salt, 10 Grams;

Iron, 10 centigrams;

Proteid, 50 Grams, or even as high as the earlier standard of about 100 Grams;

Carbohydrates, 300 Grams;

Fat, 50 Grams. (The two last mentioned being interchangeable, within limits, in the ratio of about 2 parts of fat to 1 of carbohydrate, while gelatin may be substituted for carbohydrate up to about 50 Grams, in even proportion.)

With reference to the vicarious function of fats and carbohydrates, there is never any need of eliminating such amounts of fat as are present in ordinary foods without being recognized as such, as, for example, the 1 percent that is in skimmed milk, the 2 percent in fish, the 6 percent in breakfast foods, the 9 percent in crackers, and so on; percentages which make it possible to give as much as 50 Grams in a diet that the laity suppose to be fat-free. Of this invisible fat, it is difficult to avoid giving as much as 10 Grams, while 30 to 50 Grams can readily be added by inunction (although we cannot be certain of its being assimilated).

About all of the ordinary foods contain, as I have pointed out, the three organic ingredients in different forms and proportions, from which fact arises the difficulty of deciding upon the amount to be administered of the respective foods; there being likely to occur in some of them too many or too few of some one or more of the ingredients. But, by restricting ourselves to a certain number of foodstuffs, we may make up the proportion in accordance with the following general law: When the number of independent equations equals the number of unknowns, the latter can be determined. When these equations are actually worked out, at least one of the unknowns is likely to become a negative quantity; for, while we can always determine algebraically the quantities of certain foods required, the practical result invariably indicates that there should be subtracted from the dietary such an amount of proteid, fat, and carbohydrate as is contained in a certain amount of one of the foods; and this is, of course, impossible.

Therefore, in transposing a primary prescription of proteid, carbohydrate, and fat into nature's approximate galenicals (the natural foodstuffs or even proprietary foods), we must proceed by rule of thumb. For example, let us take the proteid ration, which cannot be replaced by carbohydrate or fat and is the most definite of the three.

If we use pure proteid or lean meat or meat-extracts or even milk, all of our raw material will be exhausted in administering the proper ration, without going further than a beginning on the requisite quantity of carbohydrate together—although in milk the proportions of proteid and fat are so nearly equal that it is easy enough to furnish sufficient fat with the proteid. Thus, the difficulty is, to give nearly pure carbohydrate or mixtures of carbohydrate and fat for the remainder of the mixture; for, while theoretically this is easy, since we have olive oil, butter, clear salt pork, and the like, as well as the various sugars and syrups, such as corn-starch, sago, tapioca, and the like, in practice such a diet rarely proves tolerable. In the cereals, including breadstuffs, there is a nearly correct proportion between proteid and carbohydrate, the ratio being from 1.4 to 1.7, and it is easy to add a little sugar or butter, and the like, to such a diet. There is probably no natural foodstuff which contains the proper proportions of all three of the organic ingredients for an adult, and none that is tolerable that contains the required amount of fat and carbohydrate to add to a food disproportionately rich in proteid.

Meat Is Necessary

For the ambulant patients, as well as for most others, some meat is required, not only empirically, but to take up the iron. In the vegetable foods, the iron content is too small, as a rule, though many stems and leaves contain variable quantities. But such iron-containing vegetables are often contraindicated by reason of their lack of organic nutriment, as well as for their difficulty of digestion and liability to fermentation, holding, as they do, large proportions of cellulose; and, though iron may be added in the form of hemoglobin or some derivative of it or in organic form, we cannot determine how much of it is assimilated. Therefore, in practice, we usually find it difficult to administer enough meat-proteid to provide for iron without increasing the ratio of iron in the dietary. There is not, and probably there cannot be, a strictly scientific, mathematical method of determining the ration needed.

Our Food Estimates Empiric

Such estimates as we have are based on empiricism, the diet being gradually reduced or increased until equilibrium between nitrogen and weight have been secured, at least approximately. Chittenden's method was, to find how little proteid could be given without apparent loss of tissue. He made no attempt to reduce the bulk or the content of fat and carbyhodrate of the rest of the food. But Voit and chemists generally have measured the consumption of food as regulated by a diet moderately restricted. The extreme lack of proteid, and, consequently, of tissue oxidation, as secured by Chittenden's method, seems to have decreased the output of heat and energy in the body, thus diminishing the call for fuel-foods. As yet it is a question which of the two rations is the more hygienic.

The dosage of food, as of medicine, depends on the size of the body, and, therefore, indirectly upon age, sex, and so on; so that with growing children there is a disproportionate need of the depositable food ingredients (proteid and fat) as compared with carbohydrate, which latter cannot be stored in quantities larger than about 250 Grams. Though there is scarcely an analogy of this in the dosage of drugs, there are in their effects idiosyncrasies similar in character. As a given remedy may produce results either much beyond or much short of those intended, so it may be with foods, an obese patient often retaining his fat on an abstemious regimen, while the diabetic, let him eat what and as much as he can, will grow thin. Of course, in all cases the state of the patient's digestion and absorptive powers is a factor which must be closely taken into consideration in arranging his diet.

In administering food, there is no very close analogy to the cumulative effects obtained by the administration of the alkaloids, for, the active organism is capable of ingesting and assimilating a large excess of the various organic foods without giving much evidence of damage; though there may be mechanical effects of a dangerous nature, such as intoxication due to products of decomposition by microorganisms, or poisoning by strictly toxic substances (as purins and oxalates) and toxins arising from bacterial or other chemic change before ingestion.

Food Dosage and Drug Dosage

Though it is true that we cannot always secure the reaction between drugs and the tissues that the prescription is intended to produce, we can generally manage to give in some way the full dose desired, except in the case of drugs acting locally on the alimentary canal, while the dietetist is often unable to administer an adequate dose of food in any manner, especially in the most serious and acute cases; and this difficulty almost always

obtains when, whatever the reason may be, food can be introduced neither by mouth nor by a gastric or superior intestinal fistula. There can never be introduced more than a small part of the organic ration by way of the skin and subcutaneous tissues, and, though it is often mechanically possible to introduce a full ration into the lower bowel, we practically never can secure the retention, for a satisfactory time, of over half the ration during a period of two or three weeks. Even when this half ration is retained satisfactorily (which often it is not, on account of faulty technic), absorption is always deficient and assimilation more than unsatisfactory. Therefore, these and all other like expedients for feeding must be clearly recognized as makeshifts from which not too much should be expected.

The difference between the food requirements of the healthy and active body and those of the diseased is, of course, great, and experiment will probably never be able to adjust it with scientific accuracy, though it can do much. We know that in certain stages of certain cases of diabetes there is an enormous oxidation of proteid of food and tissues that is clearly not purely compensatory of the failure of sugar oxidation, since it generally can be reduced nearly or quite to the normal by decreasing the ingestion of carbohydrate. But we do not know just how far increase of oxidation in hyperpyrexia compensates for or exceeds the oxidative demands of exercise, nor what influence antipyretic measures, such as light covering in a cool room, bathing, sweating, and the like, have upon the calories needed; neither do we know how far the demand for proteid is modified by the various febrile diseases. Probably the safe rule is, to give nearly the full ration for about every disease, when this can be done, excepting in conditions which render it possible to disregard nutrition altogether for the time being or where there is an obvious indication to reduce one nutriment to another.

(*To be continued.*)

Vaccine and Serum-Therapy in Everyday Practice

III. Therapy and Rationale of Vaccine Therapy (Continued)

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from page 245, March issue.*]

Methods of Administering Bacterins

BACTERINS are administered by injecting the liquid into the subcutaneous areolar tissue by means of a hypodermic syringe. I insist that an all-glass syringe, with a perfectly fitting glass plunger ground into the barrel—so that no packing of any kind, not even of asbestos, is necessary—should be employed, rather than a syringe with a rubber or leather piston. Personally, I should never feel safe in using one of the latter variety, for fear of producing a "hypodermatic abscess." With an all-glass syringe, perfect asepsis is easily secured. A platinum needle is to be preferred to one of steel, for the reason that the salt solution in which the killed bacteria are suspended in a bacterin soon corrodes steel needles, while it does not affect the platinum at all. I myself use an all-glass syringe of 2-Cc. capacity, with platinum needle. My platinum needle is one and one-half inches long, and seems to me to be particularly suited to this work. The needle should be of the "slip" variety, into which the tip of the glass barrel has been ground, so that a perfect fit is secured without the use of threads, rubber or leather washers, gaskets, or the like. All these precautionary measures make for strict asepsis.

Always, *before and after* making an injection, I fill the barrel of the syringe with alcohol and eject it through the needle; I then thoroughly rub the needle with a piece of gauze or wad of cotton saturated with alcohol. Next, the patient's skin is thoroughly cleansed with alcohol at the proposed site of inoculation; if visible dirt exists on the skin, soap and warm water should precede the alcohol wash. Under some circumstances, just before inoculation with the bacterin, the skin is finally painted with tincture of iodine. The needle is inserted for about one inch, and then it is withdrawn about half this distance before the injection is made, so as to avoid the chance of injecting the bacterin directly into a vein. The dose of the

bacterin should be injected into the subcutaneous tissues, and *not* intramuscularly; the reason being that the connective-tissue cells have the power of antibody production in a much greater degree than that possessed by the muscle-cells.

In administering large doses of bacterin, I believe it is better to divide the dose, making the injection into two or more sites, rather than to inject the entire portion at one point. In this way—that is, by dividing the dose and injecting at several points—the local reaction at the points of inoculation will be less severe; also, personally I believe that a greater immunizing response is thus obtained.

In adults, the inoculations are usually made at a point over the insertion of the deltoid muscle, on the outer aspect of the upper arm. In children, I usually inject the bacterin into the subcutaneous tissues of the buttock; one reason for the choosing of this latter site is, that the child, when turned face down across its mother's lap, cannot see what is being done; another is, that the tissues are looser here than in the arm of a child, making the reaction less severe at the point of inoculation.

As far as possible, in localized infections, one should choose the site of inoculation distal to the focus of infection, following the dictum of Wright that the newly formed antibodies may travel "upstream" along the lymphatic channels to the seat of war. Where this is impracticable, make the injection a little proximal to the infected focus in *healthy* tissues, so that toxins may be neutralized and the bacteria destroyed before they can gain access to the general circulation. In cases of appendicitis, peritonitis, puerperal sepsis, and so on, I make the inoculation about the middle of the inner aspect of the thigh. Always, for obvious reasons, avoid making injections over bony prominences or in the vicinity of large nerves.

It is a good plan to inform the patient, *after* you have made the first inoculation with a dose of bacterin, that quite probably there will occur, within about twenty-four hours, some redness and slight swelling around the point of injection, but that he need not be alarmed, as it is nothing serious and that it will subside within two days or so. Sometimes a small hard palpable nodule persists in the subcutaneous tissues for quite a while after the local phenomena have subsided, but this, too, eventually disappears.

Ordinarily no noticeable constitutional symptoms supervene upon the injection of a proper-size dose of bacterin. Still, the temperature *may* rise a fraction of a degree, or even a degree or more, and the pulse become somewhat accelerated within a few hours after the bacterin is injected. Chilly sensations may be complained of and also a mild headache be experienced. These symptoms are the clinical evidence of the *negative phase*. Ordinarily they last but a few hours, while in the majority of cases are not experienced at all or in but slight degree. Then should follow the *positive phase*, in which the patient experiences a feeling of "euphoria" or well-being, and there is observable a pronounced amelioration of all the clinical symptoms of the disease from which the patient is suffering. The positive phase frequently comes on within from four to eight hours after the administration of the bacterin, but may not make itself evident for from twenty-four to forty-eight hours. The average time, in my experience, is about twenty-four hours.

Dosage of Bacterins

The size of a dose of a given bacterin, like that of a drug, depends upon a number of factors, such as age, sex, body-weight, idiosyncracy, and so on. But in general, the adult dosage of the bacterins in common use by me is about as follows:

Staphylococcus pyogenes albus	100 millions to 1000 millions
Staphylococcus pyogenes aureus	100 millions to 1000 millions
Streptococcus pyogenes	30 millions to 100 millions
Streptococcus erysipelatis	50 millions (daily)
Streptococcus viridans and s. rheumaticus	50 millions to 500 millions
Pneumococcus	20 millions to 100 millions
Gonococcus	100 millions to 1000 millions
Micrococcus catarrhalis	25 millions to 100 millions
Bacillus coli communis (colon-bacillus)	20 millions to 200 millions
Bacillus typhosus (typhoid - bacillus) (immunizing)	500 millions to 1000 millions
Bacillus typhosus (typhoid-bacillus) (therapeutic)	100 millions to 500 millions
Bacillus influenzæ	50 millions to 200 millions
Bacillus pertusis (Bordet's bacillus)	50 millions to 500 millions
Bacillus of acne	10 millions to 100 millions
Bacillus of Friedlander	75 millions to 300 millions
Meningococcus (immunizing)	500 millions to 1000 millions
Bacillus tuberculosis (nonvirulent)	100 millions to 1000 millions

The foregoing figures represent the usual adult dosage.

The dose of a bacterin for a child is from one-fourth to one-half that for an adult, according to age.

In administering the *first* dose of bacterin, the minimum dose, as shown in the dose-table given above should be tried; then, if there is no response within twenty-four or forty-eight hours, repeat the dose, increasing it somewhat.

Bacterin Containers

The various biological laboratories are now putting out the bacterins in very convenient packages. In one form, the maximum dose is enclosed in a sealed glass ampule, with a label giving the number of millions of killed bacteria of each variety contained in it. These ampules ordinarily contain 1 Cc. This form of container is very convenient, and there is no chance of contamination from outside, as they are hermetically sealed. Their only disadvantage is, that, if one does not use the entire content of the ampule, the remainder is a loss.

In using the ampule package, it is first shaken, in order that all the killed micro-organisms may be put in suspension. The elongated neck of the ampule is then broken off, the needle of the hypodermic syringe is inserted into the ampule, the latter is inverted, and the dose desired is drawn into the syringe by slowly drawing out the piston.

Another style of bacterin-container is that in which the bacterin is sent out in a syringe, similar to, but smaller, than those in which antidiphtheric serum comes. They are quite convenient, but considerably higher in price than the package next to be described.

The third, and to me the most convenient and economical package, is a "bulk," or "tank," container of glass, with a rubber diaphragm across the mouth of the bottle. These containers are usually of a capacity of either 5, 10, 18 or 20 Cc. Outside the rubber diaphragm, there is usually placed a felt pad saturated with lysol or some other antiseptic; or, you are directed to place a drop of phenol or lysol on the diaphragm and then puncture the diaphragm through the drop of the antiseptic. If the syringe and needle have been properly prepared with alcohol, as detailed in a previous paragraph of this paper, and the precautions in regard to puncturing the diaphragm of the bulk package just described are followed, there is no danger of contaminating the contents of the container. And there is the very decided advantage of one's being able to withdraw the exact dose desired, without entailing any waste of bacterin whatever.

Consideration of the preceding papers of this series leads to the following conclusions:

1. The activities of the immunizing mechanism of the body consist, in the main, of the elaboration of *immune-substances*, or *antibodies* (opsonin, antitoxin, agglutinin, lysin, and the like), which may operate independently of, but more often in cooperation with, the phagocytes (polymorphonuclear leukocytes, large lymphocytes, and connective-tissue cells).

2. The opsonic index furnishes a fairly reliable guide in regard to the progress of a given infection and the establishment or non-establishment of an immunity; a high opsonic index, with regard to the specific bacterium (or bacteria, in the case of "mixed infections") responsible for the pathologic process, being, in general, a favorable indication.

On the contrary, a persistently low index indicates that the immunizing mechanism is not being adequately stimulated or that the tissues are unable to respond to such stimuli. It is essential that these stimuli (doses of an appropriate bacterin) shall be administered in correct dosage, both as to size of dose and as to proper intervals; otherwise, the index will be sometimes high, sometimes low, with corresponding fluctuations in the clinical condition of the patient. However, we have also learned how intricate a procedure is the estimation of the opsonic index, which makes its employment by the general practitioner an impossibility; and that the clinical picture is, after all, probably as reliable a guide as the cumbersome opsonic index.

3. At the infected focus or foci, there exists a condition which Wright has termed "lowered bacteriotropic pressure"; by which is meant that there is, at the infected focus, a local deficiency in antibodies. As a specific example, we may say that in a case of typhoid-fever the tissues comprising and surrounding the Peyer's patches in the intestine, the rose-spots and the splenic pulp, may be almost completely devoid of the specific *typho*-agglutinin and *typho*-opsonin, while there may be present in the tissues just named an adequate quantity of *strepto*- and *staphylo*-antibodies.

Causes of Failure in Bacterin-Therapy

Stimuli, in the form of (a) toxic products of bacterial activity at the infected focus, or (b) a suitable bacterin injected hypodermatically may reach healthy tissues and result in the production of large quantities

of antibodies. Yet, these antibodies may be unable to gain access to the seat of warfare, because of the formation of a "pyogenic membrane," or dense leukocytic wall, surrounding the focus or foci of infection. Again, in the case of a meningitis, the high intracranial or intraspinal pressure may, and does, interfere with or prevent the determination of the immune substances to the place where they are most needed. Here, lumbar puncture and the withdrawal of cerebrospinal fluid, to relieve tension, is indicated.

In the first instance, just cited, where there is a circumscribed collection of pus, or, in other words, where there exists an abscess, the proper procedure is, to evacuate the pus by incision and drainage; then loosely to pack the cavity with strips of gauze wet with Wright's solution (sodium chloride, 5 percent, and sodium citrate, 0.5 percent, in sterile water), and apply a dressing kept wet with the same solution. This results in a copious outpouring of serum, which washes away the detritus of the battlefield (consisting of bacteria, their toxins, dead and dying leukocytes, and the like), as well as bringing a fresh supply of antibodies to the scene of the contest.

In *chronic* abscesses, there may be such a dense "pyogenic membrane," consisting of coagulated serum, necrotic or seminecrotic tissue, and exhausted leukocytes, that recovery cannot take place until the walls of the abscess have been lightly curetted and the cavity packed and dressed, as outlined in the preceding paragraph. It must be understood, however, that I do not advocate this procedure in *acute* abscesses, where the result might prove disastrous. It should be employed *only in chronic cases*.

Where there is a known or suspected excessive coagulability of the blood, citric acid, in doses of 1-2 to dram, by mouth, three times a day, is indicated. This has often proved to be a measure of great value to workers in the field of bacterin-therapy.

Again, an ischemia, or local circulatory deficiency, may prevent a free flow of antibodies to the infected focus. In this case, the application of a hot-water-bag, or of hot fomentations, or the production of Bier's hyperemia by means of an elastic bandage applied proximal to the seat of infection, is indicated.

When the leukocytes are deficient in number (leukopenia), despite the existence of an infection and the injection of a bacterin, a leukocytosis may be induced by the hypodermatic injection of a cubic centimeter of a 5-percent solution of sodium cinnamate in sterile physiologic saline solution. However, this method results in the sudden output of large numbers of leukocytes from the "factory" in a somewhat immature state, and whose phagocytic powers may not be fully developed. Nuclein, administered hypodermatically, also has a reputation as an inducer of leukocytosis.

In infections of the peritoneum, either local or diffuse, bacterin-therapy has, in my hands, yielded results that, to me at least, were almost marvelous. But these results were attained only when the bacterins were used in conjunction with other appropriate measures, such as free drainage, the Fowler position, and the continuous administration, per rectum, of physiologic saline solution (or, in some cases, of hypotonic salt solution, or even plain tap-water), drop by drop (the socalled Murphy drip).

The Murphy Drip, or Continuous Proctoclysis

This continuous proctoclysis is a remedial measure of untold value, when once the rationale of its action is properly understood. Some of the solution is absorbed by the blood- and lymph-vessels of the rectum and colon, keeping the blood-vessels well filled, with the result that the absorption of the products of bacterial activity is reduced to a minimum. Next, it stimulates all the organs of excretion and aids them in their efforts to eliminate toxic substances from the body. Another portion of fluid introduced into the bowel passes through the intestinal wall by osmosis and enters the peritoneal cavity, where it dilutes the pus, washing the latter out through the drainage-tubes and rendering less concentrated any pus that may unavoidably be absorbed. Postoperative thirst is also relieved by this proctoclysis.

The Murphy drip has a wide range of uses other than in infections of the peritoneum. In pneumonia, it is often a life-saver, when employed in conjunction with the administration of a suitable bacterin and active-principle medication. Here, however, we are confronted by a condition of chloride retention, so that, theoretically at least, plain tap-water is indicated for use in the "drip"-apparatus, rather than the commonly used physiologic saline solution.

Besides the uses for continuous proctoclysis by the drop-method outlined above, it is of value wherever the system is overwhelmed by a flood of toxins. However, one precaution is to be observed, namely: that, if the employment of this most excellent

measure be abused, the kidneys may break down under the strain of eliminating excessive quantities of fluid.

Dosage of Bacterins

The size of the dose of a bacterin may be too large or too small, and the result, consequently, be disappointing. In my experience, too small doses are employed more often than too large ones. Especially has this been true in the bacterin treatment of whooping-cough, the clinicians who used large doses reporting eminently satisfactory results, while those reporting failures invariably had employed doses too small to be effectual.

In acute conditions, where we have an active infection and virulent microorganisms to deal with, the doses of bacterin should be comparatively small; while in chronic infective processes, where the bacteria have to a certain extent lost their virulence and the tissues have become habituated to the stimuli emanating from the focus of infection, so that the tissues no longer respond to these stimuli by the formation of antibodies in adequate amount, then large doses of bacterin must be administered; and these should be progressively increased until an adequate response is obtained or until it becomes evident that favorable results are not attainable from this line of treatment.

Again, the intervals between doses may not be properly spaced. As we remarked when considering the "negative-phase question," the doses of a bacterin must not be administered so close together that the result is a *cumulative negative phase.* It is an axiom of bacterin-therapy that after administering a dose of a bacterin you must wait until the resulting slight negative phase has passed, and the *positive phase* supervenes, before repeating the dose. The advent of the positive phase, as has been said before, is shown by an improvement in the clinical symptoms and by a feeling of physical wellbeing apparent even to the patient himself.

In acute conditions, small doses, repeated every other day, or, in urgent cases like pneumonia and septicaemia, every twenty-four hours, until improvement is manifest, should be employed. In chronic infections, the interval between doses should be from three to seven or even ten days, according to results attained.

In infections caused by the tubercle-bacillus, exceedingly small doses of tuberculin or of tubercle-bacterin are to be employed, at intervals of ten days to two weeks, the size of the dose being cautiously increased, but ever remembering that a focal reaction is to be studiously avoided. I have had but limited experience with the treatment of tuberculous troubles by means of bacterin therapy, hence, would refer the reader, for more detailed information on the subject, to the writings of men specializing in this particular field of endeavor.

Finally, the use of a stock bacterin may result in failure to attain the greatly to be desired results, while an autogenous preparation may bring about a brilliant cure. At other times, the autogenous bacterin, for reasons presently to be detailed, may fail ingloriously; while a mixed stock bacterin of polyvalent strain often gives strikingly satisfactory results in the very case in which the autogenous has failed.

This brings us to another of the vexed questions of bacterin-therapy, namely, the comparative virtues, advantages, and disadvantages of autogenous and stock bacterins. Over this question, there has been a long and bitter controversy; but I believe we are finally beginning to see the light.

Puerperal Eclampsia

By William Rittenhouse, M. D., Chicago, Illinois

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THE best way to treat puerperal eclampsia is, not to let it happen. And, the preventive treatment of this condition—so dreadful in its development—is so simple and practical that there is little excuse for any physician having eclampsia occur in his practice. Furthermore, when it does occur, there is little excuse for a fatal termination of the attack.

To many readers, I am sure, these two statements will seem altogether too sweeping. No doubt in some rare cases the convulsions can not be prevented, and also on rare occasions one meets cases in which the toxemia is so great that death is inevitable; still, I have demonstrated in my own practice extending over a period of more than a quarter of a century that the two foregoing assertions

are substantially true. Furthermore, there are hundreds of obstetricians all over this country whose experience but confirms my own. In the past fifteen years, I have had no cases of puerperal eclampsia where I had the opportunity to treat the existing albuminuria for at least one week before delivery.

Within the period mentioned, all the cases of eclampsia occurring in my practice have fallen into two classes; namely: those in which the woman had not been under a doctor's care at all, and those in which I saw her in consultation and she had received the ordinary treatment for albuminuria. Out of all these victims, only one died, and she a woman who was far advanced in Bright's disease before the pregnancy occurred.

The Two Important Remedies

The main factor in my treatment of albuminuria is, the pushing of *digitalis* to the physiological limit; and I may add that for this method of treatment I am indebted to the late Prof. Alfred L. Loomis, of New York. Next, in developed eclampsia, my sheet-anchor is *veratrum viride;* and I owe thanks to Prof. Lapthorn Smith, of Montreal, for having inspired me with the courage to use it in the enormous doses necessary to bring success.

It is fit to emphasize that in the use of both these potent drugs success depends entirely upon their fearless dosage. In comparing notes with those who claim to have been disappointed by this therapy, I have invariably found that they had been too timid to as dosage. That also was my own experience at first, before having learned to use these drugs boldly.

It goes without saying, of course, that when we are giving large doses of such powerful drugs as digitalis or veratrum we must take certain precautions and exercise a degree of supervision adequate to secure the patient against poisoning. I have seen three cases of such poisoning, one with digitalis, and two with veratrum, and in each the doctor in charge had failed to appreciate fully the power of the drugs he was using. None of these three cases ended fatally, still, all were sufficiently grave to emphasize the need of caution.

Evidently, it is necessary to adopt some procedure calculated to insure the patient's safety; and such will be found the one outlined below—a course which, if followed, not only is perfectly safe, but the results from which are so brilliant that the practice of obstetrics is robbed of at least one of its terrors.

The essential feature of this treatment consists in beginning with a dose that is safe for any patient, and thereafter, under very close and scrutinizing observation, to increase the doses, according to the impression produced by the drug. As the effects of veratrum are obtained much more quickly than that of digitalis, it follows that the details of administration must differ greatly for each drug.

The Prophylaxis of Puerperal Eclampsia

The prevention of puerperal eclampsia depends upon an adequate supervision of the pregnant woman, to the end that albuminuria may be promptly recognized, when present, and promptly and efficiently treated.

Some of the methods employed for this supervision are not always practicable, except for wealthy or at least well-to-do patients. Thus, laboratory analyses of the urine once or twice a week for three months is too costly for most patients, and is quite unnecessary. When the doctor is engaged for the case, he should strongly impress upon the patient the necessity of reporting to him during the last three months of pregnancy *any* states of ill health, especially headache, nervousness, nausea, edema of feet, hands or face, or scanty urine. The patient should also be instructed to send samples of her urine at the beginning of the seventh, the eighth, and the ninth month. If these precautions are faithfully observed, no serious case of nephritis will escape discovery.

How to Examine Urine

Whenever the urine is found to be of very low specific gravity or to contain albumin, then frequent examinations must be made; the frequency varying, according to the severity of the condition, from daily to twice a week. It is not safe to make the intervals longer than half a week if once the kidneys have been involved, as these patients sometimes change for the worse very suddenly.

But these examinations of the urine need not be elaborate analyses, qualitative or quantitative. On the contrary, it is better that they should be simple, so that they can be made by the doctor himself in a few minutes; for then they are more likely to be made *often*.

Three things the doctor must find out—the rest is immaterial. (1) He must know the amount of urine passed in the twenty-four hours; (2) he must know its specific gravity;

and (3) he must know the proportion of albumin present.

The first object can be ascertained by having the patient collect the urine in a vessel from noon to noon. However, the sample used for testing should not be taken from this twenty-four hours' collection, for part of it has stood too long. The specimen should be freshly passed.

The specific gravity is found in a moment by means of a urinometer.

Thirdly, the albumin can be determined most quickly and reliably by the heat-test. This latter statement will be challenged by some of your readers; nevertheless, I am convinced of its correctness. I have used both the heat and the nitric-acid tests for many years, and I prefer to stake my patients' safety on the former.

Much depends, however, upon the manner in which the heat-test is performed. If done in the manner described below, it is as delicate as the acid-test, and it is not subject to the error of redissolving some of the albumin by using too much acid.

The Heat-Test for Albumin in Urine

I use a test tube that has a mark on it 100 millimeters from the bottom. The reason for this will appear below. If the urine is not perfectly clear or if it does not become clear on heating moderately, it should be filtered. As a matter of fact, albuminous urine is nearly always clear. The test tube is filled with urine to the level of the 100-millimeter mark. *Only the upper portion* is then heated to the boiling-point over an alcohol-lamp. In this way, the faintest precipitate can be recognized by contrast with the unboiled lower portion. If no cloudiness is produced by the boiling, the test need not be carried any farther; for, no albumin is present.

If, on the other hand, there is seen ever so faint a precipitate in the boiled portion, it may indicate albumin, but also only phosphates. The addition of a drop or two of dilute acetic acid will dissolve the phosphates and cause the urine to clear up; while, if albumin, it will not. Care should be taken to use only a very small amount of a weak acid for this part of the test, because a strong acid, such as nitric, is liable to redissolve some of the albumin and thus give a deceptive answer when the amount of albumin is small.

If the precipitate has persisted after adding acetic acid, then albumin is present; and then the most important test has still to be made; we must find out how much of it there is.

To determine the percentage of the albumin, all the urine contained in the test tube now is brought to the boiling-point and *kept boiling for at least five minutes*. By passing the test tube (which should be of ample size) rapidly back and forth over the alcohol-flame, explosive boiling may be avoided. This is *the important part* of the test, for, in many samples of urine the precipitate will not settle unless it is well boiled. The tube may now be set in the rack to cool and settle, and, in three or four hours, the albumin will have settled to the bottom, while the supernatant urine will be clear.

By placing a millimeter-scale beside the test tube, it will be easy to read off the number of millimeters of albumin at the bottom of the tube. Supposing the precipitate measures 15 millimeters, it would not be correct, of course, to say that the specimen contains 15 percent of albumin. Nevertheless, the fact that the precipitate fills 15:100 of the tube is just as valuable a means of comparison with future examinations as would be a more elaborate and difficult quantitative examination. Thus, the execution of the test has consumed only about five minutes, and, so, the busy doctor can make a daily test, if need be, without encroaching unduly on his time.

The Relative Importance of the Albumin

Of course, the relation between the quantity of urine secreted, its specific gravity, and the amount of albumin present is of great importance. The safety of the patient depends upon her getting rid of her waste products of metabolism. A low specific gravity, by itself, indicates a lack of elimination; still, if at the same time the amount of urine is large, the total elimination of solids may be sufficient. In most of these cases the urine is of low specific gravity and scanty in amount, thus rendering the danger all the greater. In a very few cases there is but little or no albumin present, yet, I have never seen convulsions occur unless urine was scanty or of low specific gravity, or both.

I have always warned the students of my classes against the danger of attaching too much importance to the presence or absence of albumin, and too little to the quantity and the specific gravity. Irrespective of the amount of albumin, if the volume of urine voided can be maintained at three pints and the specific gravity is not much below 1010, the patient is fairly safe.

Early in my practice, I attended a woman pregnant with her second child, who, two

weeks before delivery, had waterlogged feet and legs and puffy hands and face, complaining of headache and nervousness, and whose urine measured but 1 pint in twenty-four hours and had a specific gravity of 1004, while albumin was absent. She had had eclamptic convulsions in her first pregnancy, despite the excessive catharsis induced with elaterium, calomel, croton-oil, and the like; finally giving birth to a little living skeleton weighing only 2 pounds.

When this woman came under my care, I put her on digitalis and acetate of potassium and maintained mild catharsis; strong emphasis being put on the digitalis. The amount of urine rose to 60 ounces, although the specific gravity would not go above 1006. All her symptoms improved, and she went through her labor safely, with but one slight convulsion. During the following night, her after-pains became very severe, when the nurse gave her 1-8 grain of morphine hypodermically. For the next five days, she slept heavily day and night; she could be roused, but would fall asleep while eating. During this time, she became more dropsical and albumin appeared in the urine, but she finally recovered perfectly under large doses of digitalis. Why there was no albumin present before delivery is a puzzle that I must leave to those who can settle these problems by theory.

A considerable proportion of the medical profession are in the habit of attaching too much importance to the presence of albumin in the urine, regarding the patient as safe if albumin is absent. The point to be emphasized is, that the quantity of urine excreted and its specific gravity have a much more important bearing on the patient's safety than the mere presence or absence of albumin.

(To be continued.)

Bacillus-Coli Cystitis and Its Successful Treatment

By J. Favil Biehn, M. D., Chicago, Illinois

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[*Continued from page 235, March issue.*]

A RECENT case of persistent chronic cystitis that came to my notice, after stock bacterins had been used during a period of four weeks without apparent benefit, proved to be a somewhat rare infection.

A physician who had the case, upon centrifuging the urine and staining by Gram method, found a Gram-negative short bacillus, morphologically identical with the colon-bacillus; the urine, however, was alkaline in reaction. Nevertheless, he considered this to be a colon-bacillus infection and gave stock bacillus coli bacterins; however, with negative results. Upon examining the urine in this case, I found it was slightly alkaline, contained much pus, many phosphates, carbonate of ammonium crystals, and a very minute actively motile bacillus. The fact that the urine was alkaline and the bacillus was highly motile and rather smaller than the colon-bacillus led me to believe that it was not a typical bacillus coli communis; and this proved to be the case, as this organism when isolated in pure culture rapidly liquefied gelatin. It was recognized as proteus vulgaris. A vaccine prepared from this organism and given in combination with hexamethylenamine and sodium phosphate, after a primary thorough irrigation of the bladder with boric-acid solution, resulted in a clinical cure within fourteen days.

The only other cases of proteus cystitis that I have seen gave a definite history of having followed shortly after catheterization, infection being unquestionably due to this procedure.

A very interesting case of cystitis was one in which the patient suddenly developed, after a night of exposure, a violent cystitis. There was a large amount of pus and blood in the urine, a trace of albumin, but no casts. The temperature was 102° F. and fairly continuous. An autogenous bacterin was prepared from the urine, and examination of the sediment showed practically nothing but colon-bacilli, while the cultures also showed nothing but colon-bacilli. The patient was given ten doses of an autogenous bacterin, with but slight results. The urine became free of colon-bacilli to a great extent, but there was still considerable pus present, and the clinical symptoms, frequent urination particularly, persisted.

This patient was then referred to me, when a careful examination of the urine showed a few pus-corpuscles, a few Gram-negative bacilli—probably bacillus coli—and here and there a Gram-positive diphtheroid. A vaccine prepared from this Gram-negative bacillus and diphtheroid was given to the patient. The vaccine contained 200,000,000 colon-bacilli and 50,000,000 of the pseudo-diphtheria-bacilli. The physician was instructed to give 1-2 Cc. as the initial dose. As he had given the patient 800,000,000 colon-bacilli previously at a single dose, he gave one Cc. of the mixed bacterin; with the result that the patient developed a very sharp reaction, which was unquestionably due to the large initial dose—50,000,000 of pseudo-diphtheria-bacilli. And the patient developed immediately following this first dose of vaccine an acute prostatitis. Upon examining this patient, it was found that the purulent discharge from the prostate gland now contained a practically pure culture of the diphtheroid bacillus. The usual medicinal treatment (hot fomentations, sedatives, finally massage of the prostate gland) resulted in the clearing up of his symptoms within ten days.

Now he was given a second dose of the combined bacterin; only 1-2 Cc., however, was given. This produced only a very slight reaction. The general treatment was continued and a gradually increasing dose of bacterins was given every seventh day. After the fourth dose, all symptoms had disappeared.

This was unquestionably primarily a diphtheroid infection of the prostate gland, the secondary or accompanying bacillus-coli cystitis being the actual cause for which he sought relief. It may have been possible for the bacteriologist in the first instance to find the diphtheroid bacillus, but this is doubtful, owing to the enormous number of colon-bacilli present. As a result of the use of coli vaccines, however, this organism was greatly held in abeyance, with the result that when I saw the patient the diphtheroid bacillus could be easily demonstrated in the smear. Or, it may have been that the diphtheroid bacillus, although found in the original examination, was not considered of etiologic importance and, therefore, omitted in the bacterin.

Why Bacterins Fail

I have seen a score or more of cases of bacillus-coli cystitis in which the usual stock or even autogenous vaccine produced practically no effect. For a long time I was unable to understand the reason for failure, especially of an autogenous vaccine, until I came across an article by Doctor Allen in *The British Medical Journal*, in which he described the same experience, and stated further that he had found that some strains of this organism, when heated in the preparation of a bacterin, did not produce an immunizing response, but when killed by the use of 1-2 percent carbolic acid, no heat whatsoever being employed, a favorable result many times could be obtained.

As a result of this information, I have made it a rule to divide my bacterin into two parts; one-half of which I heat, the other half I treat with 1-2 percent carbolic acid or trikresol; and, since using a vaccine prepared in this manner, I have had very few failures. Doctor Allen prepares his vaccine in three parts, one part of which consists of sensitized, but not killed, bacteria. With this, I have had no experience.

Something About Dosage

While it may be said, as a general rule, that the size of the initial dose should be in inverse proportion to the size of the lesion, that is, in an extensive lesion, a very small dose should be given, whereas in a very small lesion, a large dose should be given. Yet, it is advisable in cases of cystitis due to the bacillus coli communis, or other organism, for that matter, to begin with a small dose, not over 25,000,000, owing to the fact that we cannot be sure that the cystitis is not secondary to some hidden or ill-defined lesion of the gastrointestinal tract.

Many times it happens that a large initial dose of a bacillus coli communis bacterin will result in a severe reaction and a physician will notice for the first time, and often the patient, too, the presence of a lesion referable to some portion of the body other than the bladder. Such cases I have seen numerous times. Very frequently, there will be acute symptoms referable to the gall-bladder, the appendix, some portion of the colon, the rectum, the kidney, and in women the pelvic organs. Unless the physician understands that these are probably chronic infections by the bacillus coli communis, in which the patient had through long association or through lack of severe symptoms not complained previously, he may imagine a complication has arisen. This, however, is simply the manifestation of a local reaction to the bacterin.

A very peculiar case which I saw not long ago was one in which the patient had a condition of general ill health, for which he had

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been treated by a number of physicians during a period of three or four years, with little or no benefit. An examination for life insurance, when he applied for a large policy, resulted in his being refused, the reason given being that he suffered from a bacteriuria. His physician had an autogenous bacterin prepared and gave him an initial dose of 250,000,000 colon-bacilli, the result of which was a severe reaction and the onset within eight hours of symptoms of a violent acute coli-cystitis, for which he would have been operated upon if he had taken the advice of his consultants, but, having a dread of surgical operations, as a result of three deaths in his family on the operating-table, he refused. The symptoms, however, very rapidly cleared up and, as a result of fifteen additional injections of his autogenous bacterin, he has improved wonderfully in health, put on weight, and has since been accepted by the insurance company.

In definitely localized inflammations due to the bacillus coli, the initial dose should not be more than 25,000,000. If this does not produce a marked reaction, it may be repeated daily for four or five injections or the dose may be doubled every few days—say, four or five—if a severe reaction is not produced. The usual maximum dose is 1,000,000,000.

Securing Samples of Urine

In securing a sample of urine for the preparation of an autogenous vaccine, I have obtained the best results from a sample collected at or near the noon hour; especially is this true if the patient is up and about.

It is not absolutely necessary, at least in males, to obtain a catheterized specimen, although in females this is highly essential, in order to avoid the always present vaginal infection. Ordinarily in the male it suffices for the patient to have a wide-mouthed sterile container—I prefer a 100-Cc. cotton toppered Soxhlet's extraction-flask, thats has been carefully sterilized. The patient removes the stopper, holding the mouth of the flask before him, and after allowing an ounce or two of the urine to pass, thereby washing out the urethra, the flask is held in the stream and one or two ounces is collected, the cotton stopper being immediately replaced.

While it is possible by thorough cleansing of the external parts to obtain a fair sample in the same manner from the female, yet, it is always advisable, if possible, to use a catheter.

The urine should be centrifuged and a careful examination made, using Gram's staining-method. If streptococci, diplococci, diphtheroids or other bacteria are found in addition to colon-bacilli, some of the material should be plated out on blood agar plates; in fact, I have so frequently found streptococci by this method, even when none could be demonstrated microscopically, that I now use it as a routine procedure.

Care Necessary in Chronic Cases

In acute infections, the etiologic agent usually is the predominating one, but in chronic infections the secondary organisms that practically always are contained in the discharge may be present in several hundredfold greater numbers than the true infectious agent. And, as these secondary infection organisms, especially if they be staphylococci, colon bacilli, proteus, and the like, rapidly overgrow pneumococci, streptococci, and such, the greatest care must be exercised in preparing a vaccine for such chronic cases.

Cases of bacillus-coli cystitis, pure and simple, without surgical complications, as an enlarged prostate gland, polyps or other tumors, stone, and so on, in the vast majority of cases, if not all, are definitely curable by the use of a proper stock or autogenous vaccine, combined with general medicinal treatment. The average case, even though decidedly chronic, and of long standing, can be cured by the addition of proper bacterins to the usual routine medicinal treatment and I believe in from one-third to one-half the time otherwise required.

ASPIRATION

TO GATHER something from every one thou passeth on the highway, and from every experience fate sends thee, and out of the wide knowledge thus gained of human weaknesses and human needs, to distill in thine own heart the precious oil of Sympathy.—*Annie Fellows Johnston.*

Measles: How to Treat It Successfully*

By George H. Candler, M. D., Chicago, Illinois

MEASLES (rubeola, morbilli) is without question the most common of all the eruptive fevers, few children escaping the disease. It is, from the first, extremely contagious, and while not often dangerous in itself, frequently prepared the way for the more serious disorders. Otitis is especially to be guarded against, and laryngitis and bronchopneumonia frequently complicate matters. The absolute necessity for constant and minute attention to the toilet of the nose, mouth and throat will be apparent.

A microorganism, not yet identified, is supposed to be the primal cause of the disease; the infection is air-borne, children frequently contracting the disease from occupying the same room at school or even passing the house of an infected individual. The germ has not the resistant power possessed by the microorganism of scarlatina, free exposure of clothing to air and sunlight seemingly effecting its destruction; it is always wise, however, thoroughly to disinfect, after a case of measles, all clothing and the premises probably infected. In very rare cases the disease has been conveyed by a third person—the parent, doctor or nurse—but as a rule direct contact is necessary. The prodromal symptoms are often slight and the patient developing measles—infectious even at this early stage—plays with other children or attends school till the appearance of the rash attracts attention.

The fact that very young children, nursing infants especially, do not readily contract measles is proven beyond question, yet the exceptions are many, the writer having seen an entire family, from grandmother to nursing infant, contract measles from a 10-year-old girl.

Incubation and Symptoms

The incubative period is from ten to fourteen days, the disease usually appearing within ten days after exposure.

The first symptoms are usually a marked coryza with some headache and sore throat; the cough is often troublesome, being frequent and violent, occasionally provoking vomiting. Upon examination the tonsils and fauces will be found congested and, if a careful survey of the hard palate and buccal mucosa is made, small red spots may be noted upon the roof of the mouth, while minute, bluish-white macules (Koplik's spots) appear upon the mucous lining of the cheeks. These often become more apparent if the mouth is kept open for a minute and slight tension is made upon the cheek by pressure with the finger tip, hooked within the corner of the mouth.

The child may complain of backache, lack of appetite and smarting of the eyes; in many cases the light proves disagreeable and the little patient seeks the dark corners. Listlessness is general in younger children. There may or may not be some elevation of temperature, though I have frequently noted a rise of half a degree the day before the spots were discoverable upon the buccal mucosa. It might be observed here that it is always well to examine suspected cases twice daily, and with artificial light as the macules of Koplik (which are usually to be seen opposite the molars) are not always easily seen, although they are present in nearly every well-marked case of measles. Their value in making an early and positive diagnosis cannot be overestimated since they appear in none of the other eruptive fevers.

Once the rash appears upon the face (usually three to four days later) they fade entirely away. This should be remembered, as physicians have given a negative diagnosis because Koplik's spots were not to be found, though the typical eruption of measles existed on the body. Quite frequently the doctor does not see the patient till the rash has developed and fever is marked, but in every case of coryza with cough and malaise we should examine the mouth carefully.

The rash appears first upon the face—usually about the ears, mouth and nose—and may be looked for on the third or fourth day after the coryza has set in. In some cases the eruption is thickest about the hair on the neck and resembles nothing so much as a number of flea-bites. Hour by hour the eruption spreads until the entire face is patched with small, dark-red macules. In places the skin is unaffected, in others the spots coalesce. Some swelling may occur, the eyes especially becoming puffed, and crusts may form about the nasal openings. In severe cases the features become unrecognizable. Within two days the rash is fully "out" and may become papular. As a rule, about the second day the eruption spreads to the chest, back and arms and, last of all, the trunk and extremities suffer. It is not

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uncommon to see cases without any eruption below the knees, but it is a rule for the rash to fade from the face about the time that spots appear upon the lower limbs.

Desquamation begins immediately after the eruption disappears, beginning naturally upon the face and following downwards. The skin is shed in fine bran-like particles and the child becomes less dangerous as the desquamation proceeds. In three weeks from the time of attack the danger of contagion is, as a rule, over. In mild cases desquamation is slight; here the eruption has been marked and there has been considerable fever. The process lasts from eight days to two weeks—the latter period being a safe limit.

The temperature usually is at its highest during the appearance of the rash; it reaches this point, in typical cases, about the second day—when the face is covered with macules; 104° to 105° F. is not uncommon, though under modern treatment, instituted early, it rarely exceeds 102° F. At this period discomfort is likely to be extreme; the skin itches and burns, the eyes and nose run profusely, the tongue is coated and the cough frequent and severe. The conjunctivæ are injected and muco-pus may exude and fasten the eyelids together. This never occurs if proper treatment is instituted.

The tongue of measles somewhat resembles that of scarlet-fever but the papillæ are not as prominent and the edges have not the characteristic redness. In cases seen at this time constipation is the rule; but diarrhea may be present and this symptom calls for prompt remedial measures—enterocolitis being always possible. There is more or less difficulty in deglutition, the tonsils and fauces being swollen. The glands (submaxillary and postcervical) may be swollen, indeed usually are. Under proper treatment the rash declines about the third or fourth day, and as it fades, the fever falls, the cough lessens and the patient feels better generally. By the time desquamation has well set in, the trouble in uncomplicated cases is to keep the patient in bed.

Atypical Cases

Occasionally the attack is sudden, high fever coming on within a few hours and the child showing every sign of profound toxemia. Here the rash may appear almost with the fever and in less than a day cover the entire body. In exceptional cases it may be hemorrhagic—"black measles." It is a question whether, after all, this is not a mixed infection: I have noticed that such cases convey a similar contagion in nearly every instance. In such patients the temperature runs high and exhaustion soon follows. While not necessarily fatal, the prognosis is bad.

In some severe cases the rash is very scanty and appears late, but every other symptom is accentuated. Again, the spots may be few and faint, scarcely invading the body at all; the fever is moderate and the child scarcely complains. If allowed to run loose, however, severe symptoms may develop. A patient who has measles should be kept in bed till the disease has run its course. In rare instances the rash disappears, severe prostration ensues, and later the eruption redevelops with increased severity. Mild cases are not always easily differentiated from rubella, but the typical smell of the measles-patient will never be mistaken.

Prognosis and Differential Diagnosis

In ordinary cases excellent; in cases complicated by bronchopneumonia or enterocolitis, guarded. The necessity for careful attention to pharynx, eyes and ears must be impressed upon the nurse.

Rubella is so closely allied to measles that it is frequently confounded with the latter disease. Koplik's spots (the bluish-white macules upon the buccal mucosa) are, however, never present in rubella. The fever is slight, coryza hardly noticeable—if present at all—and the rash is usually the first thing to attract attention. However, there may be some malaise, vomiting or headache. Occasionally severe systemic disturbances occur. The disease is contagious, having an incubative period of two or three weeks. Measles and scarlet-fever do not protect against rubella and the whole trio may occur in the one person within a year. The rash tells the story. Appearing first (as a rule) upon the face, it covers within a few hours the chest and body; the spots generally are pale red in color and often pinhead in size, sometimes even resembling those of scarlet-fever. Discrete maculopapules may however be found about the wrist or forehead in nearly all cases. The whole eruption may fade in one day or last two, and the fever rarely exceeds 101° F. Glandular swelling is common but also transient, and desquamation is often absent, though it is best to have the patient take a series of antiseptic baths. The disease is of little importance and the main thing is to treat symptoms—clean out and keep clean the mouth, nose, intestine and

skin, and prevent others from contracting the disorder. Many a case of rubella has been termed "rubeola" and the physician has gloried in the prompt manner in which he vanquished the disease.

In *scarlet-fever* the invasion is abrupt and symptoms severe. Koplik's spots are lacking and coryza is absent. The temperature runs up to 104° or 105° F., without any sign or eruption save perhaps a congestion of fauces and tonsils, while "red-pepper" spots may be noted on the roof of the mouth. Headache is marked, sore throat distressing, and prostration profound even early. The rash appears first upon neck or chest, rarely about groins, axillæ or buttocks. There are no macules, the skin assuming a red tint. About the mouth and nose white areas will be noted. There can be no possible misconception of the condition, once eruption occurs. Sore throat, without cough and coryza, the "strawberry tongue," vomiting, prostration, severe headache and pain in back with high temperature usually mean scarlatina. In from twelve to thirty-six hours the eruption will decide the diagnosis.

Treatment

Most writers assert that measles is a self-limited disease and active treatment therefor useless. We beg to differ. All germ-diseases are "self-limited" if left to themselves, but the doctor is supposed to be able to check their progress. In measles he can undoubtedly do so. He can, moreover, see to it that complications are prevented and serious sequelæ avoided. Measles, accompanied by pneumonia, proves extremely fatal —but pneumonia should not be allowed to occur. Otitis, as a complication, causes many cases of deafness; otitis need not develop. The catarrhal angina which always exists requires attention, most certainly, and the invading microorganisms may just as well be destroyed as left to do harikari when no further damage can be done!

The best way to treat measles is to begin early and saturate the patient with calcium sulphide, at the same time exhibiting small doses of quinine (the arsenate or ferrocyanide) and nuclein. In order to secure satisfactory intestinal conditions it is well to give blue mass and soda, gr. 1 (or calomel, gr. 1-10 to 1-6 according to age) every hour for four doses, adding gr. 1-12 of podophyllin to each dose. One hour after the last dose a saline laxative draught is given and after the bowels have moved freely a warm enema of saline solution or, better still, a mild alkaline antiseptic. The child of course is placed in bed, and mouth, nostrils, and fauces are rinsed, sprayed or gargled with a mentholated alkaline antiseptic. The ears are carefully syringed with a warm boric-acid solution, and then a minim of campho-menthol or antiseptoil dropped into the canal.

The child is stripped, and the entire body sponged with a phenolized solution of magnesium sulphate, at body temperature. The room of course should be warm to avoid chilling.

To prepare a standard epsom salt solution, dissolve in a quart of water, which has just boiled, two ounces of magnesium sulphate; the salt is thoroughly dissolved by stirring, and ten minims of carbolic acid is added. The addition of twenty grains of tartaric acid markedly enhances the cooling, soothing effect of the solution upon the skin.

This lotion should be used twice daily throughout the course of all the eruptive fevers; it lessens irritation, prevents infection, keeps the pores open and active, and generally soothes and quiets the patient. Care should be taken to sponge only a part of the body at a time, and to *keep the solution at, or just a degree or two below the body temperature.*

Nuclein, 5 to 10 drops, should be given three times a day, and calcium sulphide, gr. 1-6, every hour for forty-eight hours, then every two hours. Till the rash is pronounced, quinine arsenate, gr. 1-64, may be exhibited every three or four hours, making way as the fever rises and rash appears for a solution of gelseminine (or aconitine) and echinacoid. The dosage of gelseminine or aconitine varies, but enough should be given to keep the temperature below 101° F. If, however, the bowel has been emptied and the skin kept clean, the calcium sulphide and nuclein will prevent hyperpyrexia. In fact, fever under this treatment is so slight as to be of no moment.

Upon a small lamp a tin containing boiling water should be placed and eucalyptol and oil of turpentine, twenty drops of each, dropped thereon every three or four hours. The medicated steam serves to control bronchial symptoms. An enema is administered each day for the first four days, when, usually, all symptoms have ceased.

If cough is at all severe a few doses of calcidin will control it. Diarrhea will yield to the sulphocarbolates, 2 grains every three hours, added to the above measures.

Occasionally renal action is deficient, even the daily saline laxative (which should *always*

be given) failing to produce a free flow of urine. Barley water should then be ordered *ad libitum*, with gr. 1-3 barosmoid every three hours. Excessive urination with signs of renal irritation will call for arbutin, gr. 1-3 to 1, at equal intervals.

Otitis yields promptly to heat and instillations of thymol iodide in pure vegetable oil.

The diet should be light: barley water, gruels, fruit juices, custard and light broths, with stale bread, zwieback and crackers being ample at first. Later a mixed, easily digested diet may be given. Tonics are essential, the arsenates of iron, quinine and strychnine being the best for general use.

Special indications must be met as they arise. The more pronounced the infection the more need for the systemic antiseptics (calcium sulphide, nuclein and echinacea) and the more essential the enema, saline laxative draught and sponge-bath. In some few cases intestinal antiseptics are demanded; here again the sulphocarbolates will be found invaluable. If constipation exists, the calcium and sodium salts should be given, zinc proving too astringent.

The Emergency Treatment of Poisoning

By Samuel C. Beach, M. D., Evanston, Illinois

BY NO other emergency is the soul and mettle of the physician so tried as by the excited, hysterical call, "Come quick, doctor, he's poisoned!" And one can never tell when this will happen—so preparedness may be difficult or even impossible. The call may come on some quiet, languorous summer afternoon, when you are gliding along a country road at the comfortable unexciting speed of eighteen miles an hour and the steady whir of the motor is fast lulling you to sleep; it may come when you've your best suit on and are decorously proceeding to church, with your wife on your arm and your thoughts far, far away from such matters as poisoning-cases; but, it *never* does come when you actually are prepared for such an emergency and have even the semblance of an antidote with you. You are never, when the dire thing happens, in the office or drugstore, where you can reach up on the shelf and take down the exact antagonist you want and with perfect calmness and absence of excitement pour out the potion that will bring peace and comfort to the suffering body of the victim and speedily draw him away from the verge of the grave.

Then, also, these cases of poisoning are not of sufficient frequency for the average doctor to keep informed on the toxicology, much less to have the antidotes in readiness for use. Moreover these cases have a habit of occurring some twenty miles or so from your habitat and in places where one will find absolutely nothing suitable for the occasion.

The aim of this article will be to bring back to mind the many antidotes one can find in the common kitchen-pantry and prepare extemporaneously, thus not only aiding in saving a human life, but increasing one's reputation for resourcefulness.

To illustrate this point, let us take some one poison, say, arsenic. Now, you will instantly recollect that the antidote for this is ferric hydroxide—but where will you get that? Question: Will one man in a hundred ever think of his bottle of tincture of ferric chloride in his medicine-case, or of the fact that he can easily obtain lime-water and thus extemporaneously prepare his antidote?

In what follows, the poisons will be taken up one by one, and the symptoms produced by them be described for ready diagnosis; then the treatment will be given, first classically, then in accordance with emergency-methods, mentioning such antidotes as can be readily obtained in the kitchen-pantry or carried customarily in one's medicine-case.

It is hoped that a perusal of these lines may stimulate a desire for further knowledge and inspire physicians to crystallize their ideas on this important subject, so that when the call comes it will find everyone fully prepared.

Poisons and Their Action in General

A poison may be defined as any substance which, when ingested, impairs or destroys cell function, by virtue of its action thereon. Only poisons which make their entrance from without will be considered here; those poisonous bodies which are generated by disease not falling properly under the head of toxicology.

Poisons may be swallowed either by mistake or with suicidal intent; they may be inhaled or taken hypodermically, by enema

or by absorption from the skin or the mucous or serous membrane.

There are many factors which influence the action of poison, such as the mode of its administration, the form of the poison, dose, combination, condition of the stomach, quantity and quality of food in the stomach, general health, habit, idiosyncrasy, and, finally, age and sex.

The action is more rapid when the substance is introduced under the skin or directly into the circulation. Absorption is more rapid from serous then from mucous membranes, while absorption through the skin takes a long time. Inhalation of gas gives rise to symptoms very quickly, on account of the rapidity with which diffusion takes place.

The form of the poison influences the action to a considerable degree, watery solutions, when taken into the stomach, being absorbed faster than when in substance, while oily solutions are absorbed more slowly than the aqueous.

The size of the dose is material, an excessive dose often acting as its own emetic, as for instance the sulphates of copper and zinc, even calomel, if given in a large-enough dose, being rejected at once.

When morphine is associated with its synergist chloral, an increased action may be expected; but when taken together with its antagonist, atropine, the poisonous effect of each will be lessened or delayed. Thus, then, the combination in which a drug is taken modifies its action.

The condition of the stomach at the time is important, a healthy, active organ absorbing much more rapidly. Irritant poisons are much more fatal when a person has an inflamed or congested stomach. The period of digestion will influence the result markedly, for, should the stomach contents be strongly acid, an amount of alkali could be swallowed that would otherwise prove fatal. Occasionally the stomach contents are alkaline enough to precipitate alkaloids, and these, in turn, may be redissolved when the stomach becomes acid again.

The condition of health will readily aid or nullify poisonous action, a healthy system showing great vital resistance, while a body weakened by exhaustion or illness would more readily succumb. The presence of paralysis will allow of large amounts of strychnine being taken without harm; so will the presence of pain cause toleration of large amounts of opium. Any impairment of the eliminative organs will cause retention of the poison in the system and thus hasten the appearance of symptoms of poisoning.

While by their habitual use one may become habituated (not, however, without harm) to certain organic poisons, as, for instance, tobacco, cocaine, morphine, alcohol, the same is not true of mineral poisons; although history does tell us that the old French kings were fed on gradually increasing doses of arsenic, with the idea of immunizing them against the attempts of their enemies, arsenic being the popular poison at that time.

The idiosyncrasy of certain individuals against particular drugs must not be forgotten, and, while one is not able to tell by inspection whether serious effects will be produced or not, yet, the subsequent appearance of toxic symptoms should cause the physician to suspect that the drug and the patient are incompatible. The questions on the history-sheet of a certain great physician always included: "Do you know of any medicine that you cannot take or which makes you sick?"

If the person is physically exhausted, either from disease or hard work, greater effect is noted as the result of administering ordinary doses, and, in the case of depressing poisons, the effect is much increased.

It is a well-known fact that the extremes of life are more profoundly affected by opium, while at those ages mercurials can be given in larger amounts than to persons of middle adult life. Women are asserted to be more easily affected than men.

The system disposes of poison in various ways, principally by elimination, as, direct emesis or profuse diarrhea, or by way of the kidneys, skin or salivary glands; by deposition in the tissues, as in the case of lead; by oxidation, as, phosphorus being oxidized to its acid; and, finally, by phagocytosis, the white blood-corpuscles acting in such a way as to destroy the poison or at least render it less harmful.

The cumulative effects of drugs must be borne in mind, that is, where the drug is excreted so much slower than it is ingested that accumulation results and produces poisonous effects.

The selective action of opium for the brain, of belladonna for the eye, of digitalis for the heart, and of strychnine for the spinal cord need only to be spoken of to be remembered; and this knowledge will be useful in making a differential diagnosis of poisoning by any of these drugs.

Most poisons act by exerting a general devitalizing influence; some, however, as, the

mineral acids and alkalis, exert their effects by a local corrosive or burning action, while others affect only some one vital organ or structure.

Poisons may be acute or chronic in their action, which terms are self-explanatory; certain drugs, as, morphine and phosphorus, have an effect which is spoken of as immediate and remote, respectively.

In taking up the symptoms of poisoning, it must be remembered that an early diagnosis is imperative, and, also, that reliance cannot be placed on any symptom, but that guidance and enlightenment must be obtained rather by the sum total of all the evidence or symptoms presented.

We will now take up the several poisons:

Opium or Its Preparations

The symptoms are so well known as to need but passing mention; the most important being the stupor, from which it is difficult or even impossible to arouse the patient, stertorous breathing and "pin-point" pupils, irresponsive to light. The face is cool and clammy, all the secretions but that of sweat being diminished by the drug; the urine is concentrated and often retained. Death is usually due to paralysis of respiration.

Treatment.—Acute poisoning is antidoted by the use of atropine or picrotoxin, given hypodermically. Inasmuch as opium and its preparations are both excreted and absorbed by the stomach, the washing out of this organ frequently with a 1-percent potassium-permanganate solution is strongly advised, care being taken to leave some of the solution in the stomach, as it chemically antidotes opium by oxidation. Strong black coffee also helps. "Flicking" the chest with a cold water towel and walking the patient around are aids, being careful not to produce exhaustion by the latter method. Artificial respiration may have to be resorted to; and, to start breathing in a patient, there is no better method than dilatation of the sphincter ani with the thumbs, keeping up the rhythmic motion of respiration afterward by the usual method. Be sure to catheterize the bladder.

Emergency Treatment.—To wash out the stomach, use dishwater or soapy water, the grease in the former coating the lining of that organ and limiting further absorption, the alkali of the soap antidoting the action of the alkaloids of opium. For a stimulant, ammonia can be used, this being an article commonly found in every home and one of the best and quickest diffusible stimulants there is. The aqua ammoniæ can be used hypodermically also. The coffee is easily obtained, and there will be no difficulty in carrying on artificial respiration nor in walking the patient around, if thought advisable.

Chronic poisoning.—Since the passage of the Harrison antinarcotic law, this subject has become of more than passing interest to the general practitioner, and it will doubtless be of interest to detail briefly a treatment which can be carried out at home; remembering that the family practitioner has the entire confidence of his patient, a fact which largely influences the result.

The patient is to be thoroughly prepared by a course of catharsis, using about twice to four times the amount of cathartics which would ordinarily be administered, inasmuch as the bowel of the opium-habitué is partly paralyzed. From four to six free bowel movements a day should be obtained for a period of at least three days, giving the usual amount of the opium daily, and insisting on exercise, as also on a generous supply of nourishing food. It is well at this time to give the opium hypodermically, whether this has been the customary method of taking or not; for, by this method an accurate idea of the daily amount can be obtained.

Now start the administration of hypodermics of hyoscine and atropine, 1-400 and 1-300 of a grain respectively; giving enough to keep the patient comfortable and free from nervous worry, but not enough to produce more than a very mild delirium. This should be accomplished by the use of two or three hypodermics (as per above dose), given close together until the effect is manifest, then keeping the patient under this influence by repeating about once in three or four hours.

At the end of two days, nourishment and brisk catharsis being in the meantime kept up, the patient may be allowed to come out from under the influence enough to answer the inquiry as to whether he wants any more opium—the answer being usually in the negative. The treatment then can be stopped and the patient allowed to regain consciousness completely. The after-treatment is important.

Strychnine

Within twenty minutes after a poisonous dose of strychnine has been taken, there will be a sense of nervous uneasiness and suffocation associated with twitching of the muscles of the arms and legs, then *suddenly* there occurs a violent tonic contraction of all the muscles of the body, the stronger muscles determining the position into which the pa-

tient is thrown; this usually being the muscles of the back (opisthotonos). This convulsion will last for, possibly, five minutes, when the muscles as suddenly relax and the patient feels a sense of relief. This remission is characteristic of strychnine, and it may last from twenty minutes to half an hour, when there is a sudden and violent return of the convulsion. The remissions become shorter and the convulsions closer together, until at last death occurs from fixation of the muscles of respiration or from exhaustion.

This poison resembles tetanus in its action so closely that an accurate differentiation is important, the absence or presence of a wound being the first point sought; secondly, the convulsion of tetanus has no interval of relaxation or remission; thirdly, the mind in strychnine poisoning is clear until the last, while in tetanus it is clouded.

Treatment.—Empty the stomach immediately, remembering that it may be difficult or even impossible to use the stomach-tube, inasmuch as it may provoke convulsions. Give emetics, preferably. Also catheterize the bladder at once, to prevent reabsorption of the poison. Chloral hydrate is the physiological antidote and should be given in full doses. If the case is seen early enough for using the stomach-tube, wash out the stomach thoroughly with a 1-percent potassium-permanganate solution. Artificial respiration with oxygen has been very successfully employed in the treatment of this poisoning.

Emergency Treatment.—Strong tea, boiled for some time, for its tannin; chloroform, which the physician will usually have in his case, used to control the convulsions; and dishwater for an emetic.

Phosphorus

Cases of poisoning from this drug are often met with from the effects of ingesting the heads of matches, usually in children. It is one of the insidious deadly poisons that may give the physician the impression that the conditions have been relieved, and the patient may show signs of much relief, apparently having completely recovered from the effects of the drug. Then, in four or five hours or maybe not until two or three days, there will be manifested the remote effects of the drug, and death may result.

The immediate symptoms are vomiting, the vomited matter having a "garlicky" odor, intense thirst and hiccough. The patient is much depressed. The abdomen is distended and tympanitic. Then, as a result of the treatment, the immediate symptoms may all disappear and the patient recover, only to be taken with the remote symptoms after a varying interval of time, as stated. These are: severe icterus, hemorrhage from the nose, stomach, and bowels and purpuric spots under the skin and mucous membranes. Great weakness follows, the liver enlarges, the urine is scanty and albuminous, while death is preceded by coma or convulsions.

Treatment.—The treatment must, necessarily, be very thorough, inasmuch as the prevention of the remote symptoms depends on the complete removal of *all* the phosphorus from the stomach at the time of the first call. Oxidize the phosphorus into phosphoric acid by washing out the stomach repeatedly with the 1-percent potassium-permanganate solution. Avoid the use of oils of any kind, as they dissolve the phosphorus and allow of its more rapid absorption. Give intravenous injections of physiologic salt solution, with sodium carbonate, to maintain blood alkalinity. Give stimulants to keep up the strength of the heart.

Emergency Treatment.—Give warm dishwater or mustard-water as an emetic, using it freely enough to be sure that the stomach is thoroughly cleaned out. Then give solution of sodium bicarbonate and salt per rectum, repeating until it is sure that considerable amounts have been absorbed. Ammonia water can be used as a stimulant, either hypodermically or by mouth.

(*To be continued.*)

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

[*Continued from page 150, February issue.*]

BEFORE the tank was erected, I built the primary feature of my long-cherished dream of tropical comfort and health: a good house of fine cedar lumber, amply ventilated with screens of wire cloth, doors, and windows, and a liberal open space around the top of the walls, just under the ceiling level, and

ceiled overhead with "plaster-board," an American asphalt novelty (not very long in vogue), impervious alike to heat, cold, and dampness, the house being covered with galvanized iron and floored with concrete.

The foregoing half-dozen paragraphs should constitute a finger-board to a "Eureka" for the denizens of hot, sickly countries, where pestiferous insects abound. Naturally, wherever the frosty breath of winter penetrates, shutters over the ventilators would be necessary; but here, where 55 Fahrenheit is low temperature, I have no shutters. I have glass windows, on hinges, inside the wire-cloth screens, which I can open and shut at pleasure; but the upper half of the doors and the upper space under the ceiling have no shutters.

Adding a bountiful fruit- and vegetable-garden, which I usually have (though everything in it was lately eaten up by grasshoppers in one hour), to my house and water-supply, brings well to the front my idea of how to form the foundation and frame-work of a tropical health-structure, vices and other unnatural incongruities not intervening, in which there should be but a very small modicum of medical participation.

These radical fortifications against th enemies of health and long life were embryonic in my meditation many years ere they had actuating nourishment to develop gestation, my munificent earnings having been twice seriously depleted by robbery, and so much spent on the poor and wretched, that financial ways and means were insufficient without borrowing. But at last the big jobs I did for the American plantations, and some hospitals I established on native plantations during decimating epidemics, afforded me the needful funds, and these were immediately put into requisition to accomplish what is finished.

As I am alone in the world, without an heir, I did not have to pause to scruple about providing capital for a family nor for the ever spectral "rainy day" always haunting the average practitioner. And I built, not elegantly, but practically and substantially, little heedful of the legacy I knew I must leave behind me, when my toes are turned up and my feet put foremost on the final journey to the mournful hill.

Hardships Brought by the Revolution

I was my own chief carpenter and mason, doing work with my own hands that would have cost me $2000 (Mexican), building the house and the water-tank with the help of two peon boys, previously ignorant of such work; I having time, because I refused to go on rounds among the plantations, with bands of freebooters roaming about under the euphoneous name of revolutionists, and having no special relish in being a victim held for ransom by such gentry. This put the people to the inconvenience of bringing their seriously ill here for treatment, every other doctor of the neighboring towns having, for a long time, sought refuge in cities where there were ample garrisons. And the same conditions continue, there being a federal garrison within 200 yards of where I am writing (in July, 1915), and bands of bandits anywhere from ten to thirty miles away. And such has been the status since the beginning of the Madero revolution, with slight and but temporary modifications—now considerably more than three years.

My Practice Now Restricted

This is why I have time to write these pages: I do not respond to any call more than a league [2-3 mile] away, and do not pass a night out of my house. And I see no hope of early relief from this unpleasant crisis, even should peace nominally be established by pending negotiations, as the lawless bands operating are not supposed to be obedient to any of the more prominent leaders farther north. The large, well-organized bodies of this district abandoned the struggle some time ago, under amnesty, but the small, more dangerous parties, who recognize no friends worth pillaging, continued.

The reason why it behooves me to keep out of their reach is, that I am reputed and believed to possess wealth; which, though, I never had, and could not amass in a hundred years of prosperous practice, the public estimating the apparent earnings, being ignorant of the stillborn work and leakage of tangible resources, as I never take anybody into my confidence on such delicate points.

I suppose it would be a novelty to you elegant practitioners to see a member of the profession grasping saw, plane, hammer, trowel, and day after day work ten hours under this burning sun for a year and a half, till the work was completed. I had to thank my boyhood experience for lessons that rendered me capable for the task.

[*To be continued.*]

What Others are Doing

TRAINING IN DIAGNOSIS

The Massachusetts General Hospital has undertaken a plan for postgraduate instruction by mail, which we wish to commend to every reader of CLINICAL MEDICINE, with the urgent advice that he take the course. As Dr. Richard C. Cabot pointed out some two or three years ago, clinical diagnosis, even in our very best hospitals, has been found to be exceedingly inaccurate. Indeed, when this matter was carefully investigated at the Massachusetts General Hospital, it was found that the autopsies revealed conditions which were not recognized at all in more than half the cases prior to death. How much larger must be the percentage of error in private practice!

Realizing the deplorable errors made in diagnosis, the Massachusetts General Hospital has devised a plan for the instruction of practitioners in diagnosis. The Hospital has arranged to send out carefully prepared clinical records of actual cases coming to autopsy. Four of these printed records will be sent to any physician every week for a fee of $5.00 a year.

These records are edited by Drs. Richard C. Cabot and Hugh Cabot. Each record will give a complete clinical history of some case, with a discussion by some eminent practitioner, such as Dr. Richard C. Cabot himself. These reports will be supplemented by reports on the autopsies, thereby establishing the accuracy or inaccuracy of each clinical diagnosis. Any physician who will follow this course for a year and make a careful study of every one of the cases will wonderfully increase his diagnostic acumen.

We understand that in a number of localities these printed cases are being used at the meetings of medical societies as a basis for diagnostic and therapeutic discussion, thereby making unnecessary the preparation and reading of set papers. Such study and discussion will intensify interest in society work and prove of the utmost value to their members.

We sincerely hope that at least a thousand of the readers of this journal will write at once to Dr. Frederick A. Washburn, resident physician, Massachusetts General Hospital, Boston, Massachusetts, who has charge of this work, and enroll themselves in this course.

NUCLEIN TREATMENT OF DEMENTIA PRÆCOX

We are sure that every reader of this journal will recall the interesting papers contributed last year by Bayard Holmes, in which he introduced to American physicians the method of treating dementia præcox developed by Donath in Germany and Lundvall in Sweden. A report of his experience with this method has been made by Charles F. Read, assistant superintendent of the Illinois State Hospital at Peoria (*Med. Rec.*, Jan. 15, p. 104).

In treating his patients, Doctor Read used a 10-percent solution of sodium nucleinate, prepared according to the formula of Donath, with the addition of a small amount of sodium cinnamate. Injections were made into the abdomen with a large glass syringe. While these are painful, the treatment is not severe and the solution is absorbed rapidly. No abscesses formed and practically no induration followed after the approximately 150 injections given in this series.

Doctor Read gives the details of 10 cases of dementia præcox treated with the nuclein by this method. Without following him closely, it may be stated that in one case, "after eight treatments, the patient became quite normal in conduct and talked freely, but had no insight." In another case, the patient improved during the treatment, and "became less seclusive, seemed more cheerful, and worked at fancy work. She was paroled, after some months, very markedly improved, but still odd in her behavior and without insight." In the third case, 10 injections produced no alteration of the white-cell blood count, no rise of temperature and no improvement. The next patient "did not improve until several months after cessation of treatment, when she cleared up rapidly and went out, apparently well, but without much insight." The fifth patient was paroled,

in excellent mental condition, three months after treatment was begun. Still another of the patients improved remarkably in conduct following the first treatment, but relapsed somewhat; then again improved following the second treatment. On the whole, however, this patient continued to do much better and finally escaped. (If we may perpetrate a pun, the treatment evidently "helped him out.") The next patient apparently received no material benefit from the treatment. A colored girl received 8 treatments extending over two months, following which she improved rapidly, and was finally paroled in what was, apparently, a normal condition. Case 9, which is described at considerable length, was interesting, in view of the marked improvement following immediately upon the injection of sodium nucleinate in a patient who had formerly been in a stationary condition. In the tenth, and last, case reported, the patient received 7 treatments, the number of white blood-cells ranging between 6800 and 14,000. By the time the last treatment was given, the patient showed a change for the better, smiled, talked, and complained about being with untidy patients. When placed in another ward, he improved rapidly.

Doctor Read does not attempt to generalize from the results obtained in these ten cases. However, he declares that in certain cases it seemed to precipitate an improvement, which, however, might have occurred later on without treatment. He advises its continuance until definite statistical results are obtainable.

RATS IN THE TRENCHES

That shrapnel, high explosives, Germans (or English—put in the word that suits you), and lice are not the only unwelcome visitors to the trenches, is shown by a communication to the *Paris Médical* (Jan. 22), contributed by Loir and Legangneux, who incorporate in their article a letter received from one Louis Morin, formerly the official rat-catcher of the bureau of hygiene of the city of Havre. These rats, it seems, are submitted to laboratory examination, in order to determine the presence of the plague-bacillus, which, fortunately, has never been found in that city.

Morin, at the beginning of the war, went to the front with his regiment, and now he sends back to his old colleagues in Havre a picture of himself, his clothing decorated with dead rats, which he calls "*un souvenir du front ou je suis toujours a la chasse*" (greetings from the front, where I am always on the chase). "In 105 days," he writes, "I have killed 5437 rats." He adds that in the valleys of the Aisne and the Marne there are more rats than there are in Havre.

The authors remark (probably in defense of their city!) that, thanks to the food warehouses in Havre, rats are becoming more and more abundant, making it necessary to keep after them every day. For their destruction in large establishments, they employ the virus of the Pasteur Institute, which is placed in the runways of the rats. When it is desired to clean up a few rooms, as is most usually the case in the city, they use squills as a rat-poison. Following are the two formulas most employed for this purpose:

1. *Powder of squills and hashed meat.* This consists of equal parts of squills and hashed meat, made into little balls, of 5 Grams each.

2. *A paste of squills*, the formula of which is as follows:

Powdered squills	5 Grams
Flour	20 Grams
Powdered fennel	20 Grams
Essence of anise	1 drop
Ordinary fat, q. s., to make a hard paste.	

Make up into cakes of about 10 Grams each.

The rats are attracted by the odor of the anise. This mixture is not dangerous for other domestic animals, but kills the rat very quickly.

TREATMENT OF SEVERE POSTPARTUM HEMORRHAGE

A novel method, which he employs for the immediate control of severe postpartum hemorrhage, is described by R. K. Howat. This writer points out (*Brit. Med. Jour.*, 1915) that two fundamental principles must be considered in these cases, the first one being, to exert pressure, (a) proximal to the bleeding area, and (b) local at the bleeding area; and the second, elevation of the bleeding area. And this is the way he brings it about, the procedure being described in connection with an imaginary case:

"The patient's appearance suggests the condition present. The bedclothes are at once thrown off and the quantity of blood seen practically clinches the diagnosis. With one hand the abdominal aorta is compressed —an easy thing to do through the lax abdominal wall, and one which should not require more than three seconds. Meanwhile the nurse is called to the bedside; and further assistance, if not in the room, is called for. The other hand separates the thighs and is then passed into the vagina.

The cervix is felt and grasped with moderate firmness, in order to steady it and so help the other hand in its next maneuver. As soon as this is done, the abdominal hand, leaving the aorta for the moment, "gathers" the relaxed and blood-filled uterus in its hollow, squeezes it, and presses it down in an anteflexed position against the vaginal hand, which meanwhile has been shut and moved into the anterior vaginal fornix. The anterior and posterior uterine walls are now pressed against each other by the two hands. At the same time some pressure, if thought desirable, is made on the aorta by the back of the wrist of the abdominal hand.

"While this is being done, an assistant places a pillow between the patient's head and the top of the bed, to act as a buffer. As soon as the uterus is gripped between the attendant's hands, the nurse lifts up the patient's pelvis as high as possible—practically to an angle of 60 or 70 degrees with the bed—that is, the patient is placed in the Trendelenburg position. The necessary counter pressure is given by the resistance of the bed-head to the head of the patient, who now rests on the back of her shoulders, neck, and head. All the above maneuvers need not occupy more than thirty or forty seconds.

"Meanwhile the additional help, which by this time has arrived, prepares whatever is necessary and available to maintain the Trendelenburg position, in order to relieve and set free the nurse. Suitable mechanical supports are pillows and the like, a partly inverted chair, and a towel or sheet as a sling from the bed-top. Others will readily suggest themselves.

"The above measures will, with practical certainty, secure the complete arrest of hemorrhage as soon as they are in operation. No other *local* treatment is attempted. But, if the patient's condition suggests danger from low blood pressure, then her arms and legs are raised to the vertical and held there by the assistants.

"When the uterus is felt to be firmly contracted (and on no account before this is so), the vaginal hand is withdrawn, and is then available for other purposes, a wet pad being applied to the vulva as the hand is withdrawn.

"As soon as uterine contraction and the patient's general condition are satisfactory, the pelvis is lowered to an angle of about 30 degrees and the abdominal hand removed, being returned from time to time, to observe the condition of the uterus. A binder is tightly applied. The patient is kept in this elevated position for as long as seems desirable—never less than several hours—her legs being supported in a horizontal position. Whatever additional measures may be thought desirable for the maintenance of hemostasis and uterine contraction are applied, and suitable arrangements are made for the patient's general comfort."

SODIUM SALICYLATE INTRAVENOUSLY IN ACUTE RHEUMATISM

Some months ago we published formulas for the intravenous administration of sodium salicylate in the treatment of acute rheumatism, to be used either when the drug is not well tolerated when given by the mouth or when it is desired to produce immediate and pronounced effect. Our readers also recall the paper by Mr. Nielsen, published in our August (1915) issue, in which reference was made to the use of "salicylic-acid solution" in the treatment of tuberculosis.

We find another reference to the use of these intravenous injections in the treatment of acute rheumatism in the *Semana Medica* for December 23, 1915, in which Cernadas advises daily injections of from 1 to 2 Grams (15 to 30 grains) of sodium salicylate, the solution employed being as follows:

Sodium salicylate	5	parts
Caffeine citrate	0.25	part
Distilled water	25	parts

Of this solution, from 6 to 10 Cc. (100 to 150 minims) is given daily. The salicylate must be chemically pure, and the solution should be kept in the dark. According to Cernadas, this treatment is of special value when the remedy is not well borne by the stomach.

ALCOHOL IN PNEUMONIA

The following health note is issued by the United States Public Health Service and is printed exactly as received:

"The United States Public Health Service brands strong drink as the most efficient ally of pneumonia. It declares that alcohol is the handmaiden of the disease which produces ten percent of the deaths in the United States. This is no exaggeration. We have known for a long time that indulgence in alcoholic liquors lowers the individual vitality and that the man who drinks is peculiarly susceptible to pneumonia. The United States Public Health Service is a conservative body. It does not engage in alarmist propaganda. In following out the line of its official duties, it has brought forcefully to the general public

a fact which will bear endless repetition. The liberal and continuous user of alcoholic drinks will do well to heed this warning, particularly at this season of the year, when the gruesome death-toll from pneumonia is being doubled."

And so the United States Government is becoming a prohibition propagandist; for, in the last analysis, that is what it amounts to, doesn't it? If alcohol is dangerous to health and provocative of higher mortality in infectious diseases, it is assuredly something to get rid of.

ALCOHOL IN THE FRENCH ARMY

Th antialcohol propaganda in France is growing in intensity. The topic has been discussed at a number of meetings of the French Academy, and, while apparently there are no prohibitionists in Paris, there are many who wish to see the alcohol evil drastically regulated. At the meeting of the Academy of Medicine on January 25, the topic was discussed by Debove, Gautier, Hayem, Linossier, and many others. All those taking part in the discussion were in accord in this conclusion: "As to fermented drinks, they may be consumed, expressly on the double condition of being taken only in moderate quantities (which, for wine, should never exceed a liter), and only when eating."

HEXAMETHYLENAMINE AFTER GALL-BLADDER OPERATIONS

In discussing a paper on gallbladder diseases read by Dr. Charles H. Mayo at a medical meeting, and which is reported in *The New York Medical Journal* of March 4, J. Lewis Amster laid emphasis upon the value of hexamethylenamine administered after gallbladder operations. On account of the danger of the production of cholecystitis and, realizing that the mere removal of the stone and drainage does not remove the underlying cause of this condition, he was of the opinion that the post-operative treatment should be considered as important as the operation itself.

Experimental study with hexamethylenamine has convinced Doctor Amster that this drug has specific germicidal action for the gallbladder and intestines and, therefore, acts as a powerful intestinal antiseptic and antifermentative. He has made it a routine measure, following these operations, to give his patients a small quantity of this drug, well diluted, and at frequent intervals.

This treatment has proven valuable after abdominal operations. His patients never required catheterization, thirst was greatly relieved, abdominal distention rarely occurred, shock was lessened; and the only disadvantage is that the drug can not be administered by the mouth when there is persistent vomiting and unconsciousness. In that event, the hexamethylenamine is administered by proctoclysis, according to the same principle as the Murphy drip, but employing an acid medium, on account of the alkaline intestinal secretion.

OBSTINATE NEURALGIA CURED WITH EMETINE

Some really remarkable results were obtained by Alexander C. Howe (*Long Island Med. Jour.*, Feb., p. 57) in four cases of neuralgia of the head, all of which had resisted prior treatment on classical lines. While pyorrhea was not a decided factor in any of these cases, in all of them the entamœba buccalis was found, so that Doctor Howe decided to give emetine treatment a trial. Following is his description of the first case treated, which, in the main, is typical of all the rest:

"On September 25, 1915, I was consulted by a man, age 43, for pain in one or both cheeks, extending at times to the forehead, at other times to one or both temples. This pain had been more or less constant for five years, but had increased considerably the past year. His teeth were frequently too tender to eat substances like beefsteak. During the preceding three years, he had spent about $400 among dentists, with the idea that his teeth caused his pain. X-ray after x-ray examinations were negative. His general condition and neuralgia of the face and head were such that he was frequently incapacitated for business. He also gave a history of vasomotor rhinitis and general depression that is characteristic of entamebic protein sensitization.

"Examinations of nose, accessory sinuses, and throat were negative. His gums and teeth were far better than in the average mouths that give no trouble. Only a few pus-pockets were found. The gum margins were not excessively irritated. None of the teeth were loose. From appearances, his pyorrhoea alveolaris was so slight as to be a negative factor in his case.

"Microscopical examination for entameba showed the mouth and tonsils strongly positive, but the nose negative.

"He was injected with emetine September 25, at the time of his first visit. The injection was repeated the following day. On the

27th, he reported that he had been entirely free from pain since the time of the second injection, and that his teeth were so comfortable, he expected to tackle the first beefsteak he had attempted in two years. From that date to the present time, November 1, 1915, he has been entirely free from pain, practically free from soreness, of the teeth, and his symptoms of protein sensitization have cleared up."

We hope that readers of CLINICAL MEDICINE will follow this cue. It does not inevitably follow, of course, that the benefit obtained by the injection of emetine in these cases is due to the fact that the drug is an amebicide. We are beginning to suspect that there are physiologic reactions to this drug which we do not as yet understand. Some day, we hope, we may. At any rate, if it will cure intractable neuralgia even once in a while, it certainly is a good thing to have on hand ready for trial.

SODIUM GYNOCARDATE: A NEW REMEDY FOR LEPROSY

Thanks very largely to the brilliant work performed by Dr. Victor G. Heiser in the Philippine Islands, chaulmoogra-oil is now considered as probably the most valuable remedy we have for leprosy. Unfortunately this oil is extremely nauseating and it may interfere very seriously with digestion. To overcome these objections, Sir Leonard Rogers of Calcutta, whose great work in developing the emetine-therapy of dysentery has been pointed out repeatedly in these pages, has been using in its place gynocardic acid—also known as chaulmoogra acid—which is believed to be *the active principle* [please note!] of that oil. Since gynocardic acid is insoluble in water, he has tried both the sodium and the potassium salt; but the sodium gynocardate, seems, on the whole, to be preferable. Rogers has employed this gynocardate in doses of 1 to 2 grains repeated twice a week; although this dosage may be increased up to 40 grains in a day.

Doctor Rogers states that, while it is too early to say what will be the ultimate result of this treatment, he is gratified by the number of cases of leprosy, both of the anesthetic and the tubercular type, which have improved rapidly under the influence of the hypodermic injection of either of these salts; adding that this remedy has proven more effective than any treatment heretofore tried by him, including nastin subcutaneously and chaulmoogra-oil and gynocardic acid taken by mouth. (Nastin, we may add, is a glycerin ester of a fatty acid secured from leprosy bacilli. It was introduced by Deycke and Reschad, in 1907, and formerly was considerably used in treating leprosy.)

PROPHYLACTIC VACCINATION AGAINST CHOLERA IN THE WARRING ARMIES

According to the Austrian and German medical journals, anticholera vaccination has proven a "brilliant success" in the armies of the central powers, so that, despite the numerous occasions for infection encountered, it has been possible to prevent the outbreak of an epidemic among any of the divisions, or, where at the beginning such an epidemic had started, to check it abruptly by means of general vaccination.

This accomplishment is being hailed as a triumph of science. One beautiful feature is that the injections are entirely harmless, the men continuing their arduous military duties without interruption. The rate of attack among the unprotected has been about fifty times as great as among those who were vaccinated.

VARICOSE VEINS NOT NECESSARILY DISQUALIFYING

An interesting instance of varicose legs is described (*Muench. Med. Woch.*, 1915, p. 462) by Military-Surgeon Gruener. A man of 28 years, of the "landsturm," who had not served, presented himself for examination, as ordered. He was of strong muscular build and vigorous appearance. However, the veins of both legs were so enormously dilated, that "they could not be imagined to be more so." All over the legs (left one the worst) these blood-vessels lay like cylinders of the "thickness of infants' arms," with smaller ones in between that fused into veritable knots, and these sending out a network of still smaller ropes and veinlets. These swollen ropes felt softish and could be emptied by stroking centripetally. The covering skin felt warm and there was no appearance of discoloration or scarring; neither of any edema. The feet pointed at the proper angle.

Naturally, the man was marked "high-grade unfit" for field service, although useful for light service without weapon. Seeing this marking, the man protested, avowing that a year ago he had won the prize for army-packing, also several athletic prizes. Yielding to his intense insistence to be inscribed for the infantry, the doctor put him

down as "fit, class two". But at this the man became almost furious, swearing that he was good for any kind of infantry duty. The doctor was so impressed, that he finally set him down as A-1. And he is now of the opinion that many a man having varicose veins has been pronounced unfit for labor when he should not have been. He suggests looking into such men's lives.

MECHANISM OF THE URINE SECRETION IN THE KIDNEY

A. Leschke, of the Second Medical Clinic of Berlin, has been conducting some intimate studies on the actual mechanism of the secretion of the urine by the kidneys, and has published his results in the *Zeitschrift fuer Klinische Medizin* (Bd. 81, H. 1 u. 2). His aim was, to learn which particular anatomical elements of the organ are responsible, respectively, for the elimination of the several constituents of the urine—urea, uric acid and other organic compounds, salts, and water—and under what conditions of concentration.

These labors, proving and disproving previous declarations and greatly extending actual knowledge in this highly important (both in a theoretical and practical sense) field, are extremely valuable to the diagnostician, but are of such a nature as not to yield themselves to abstracting. The object here is to call attention to this work.

ECLAMPSIA AND THE PUERPERAL KIDNEY

In a communication to the *Zentralblatt fuer Gynaecologie*, W. Gessner advances the theory that the primary factor in the development of puerperal eclampsia is, the disturbance of the renal functions, while the toxic condition is the direct result of the latter. The injury to the kidneys, in turn, is caused by the heart being affected by a condition of stretching and tension, exerted, during gestation and accouchement, upon the kidneys when they are held fixed from one cause or another.

As a correlative of the conditions assumed, rational treatment consists in immediate emptying of the womb, in order to get rid of the circulatory disturbances affecting the uropoietic system. Furthermore, when such puerperal kidneys are present, one of the kidneys must be freed from all tension and stretching by severing its ureter (the renal stump being implanted into the colon or, when possible, the verimiform appendix).

Citing the foregoing proposition, Doctor Traugott, a collaborator on the *Therapeutische Monatshefte* (April, 1915), expresses grave doubts as to the practical value of Gessner's operation in reducing the present mortality of 20 percent, while the probability of infection of the kidney from the colon is very great. Nevertheless, the main consideration is, the suggestion as to the etiology of the eclampsia.

THE NETTLE AS AN ECONOMIC AND REMEDIAL PLANT

At one time, the nettle was highly esteemed in continental Europe for its fiber, which was woven into a special textile that even now in Germany bears its name ("nessel") in the imitation weaves from other sources. With the introduction of new fiber-plants, it became a noxious weed. (As "dirt" is "matter out of place," so a weed is an herb for which we have no use—utilitarian or esthetic.) Now, however, under the present economic pressure weighing upon Germany, this plant seems to bid fair to assume a rank of higher importance than ever. This much, at least, we learn from the popular press of the central empires. An account of all the good things nowadays ascribed to the despised nettle, hitherto associated principally with the donkey and with the idea of discomfort, may not be without interest even to the readers of this journal.

First of all, the young nettle-plant, gathered in the spring and before blossoming-time, is represented as constituting the most important savory part of a farrago of wild-growing spring-greens utilized either in the form of salad or as a cooked vegetable dish, notably in combination with dandelion, sorrel, and acetosella. As a vegetable food, it is said to surpass all others in its content of the nutritive salts, particularly those of the bone-forming kind—a fact worth remembering, since the modern prevalence of dental caries and other constitutional maladies well may be ascribed to the limited consumption of vegetables and fruits rich in this particular. For this reason, German writers now urge the free use of the nettle as a food.

The herb, it is asserted, may be preserved the year 'round by drying on sheets and storing in dry places; and in the latter state it forms a delectable addition to soups, vegetables, dumplings, various meat dishes, and so on.

In handling the weed, it is best to wear gloves or else to use a "rose-clipper"; only the topmost leaves being taken from older,

tall plants. The latter, allowed to grow, will have blossoms and bear the needful seed—the nettle being an annual. The seeds are to be gathered by stripping the branches, the person wearing leather gloves.

Concerning this nettle-seed, it is said that it is the most valuable bird-food known; the seeds, not freed from the dry leaves, being fed to the birds, pigeons, and fowls. The part of the seed laid by may be sown in any place and corner not otherwise utilizable for growing other things, for, the nettles thrive on almost any kind of soil, in any spot; it does best, though, on freshly cleared land—a fact worth remembering. But nothing of this plant need go to waste, for it is rich in protein, and thus (best cut short) constitutes a highly valuable food for horses —unless the fiber (a beautiful strong silken floss) is to be utilized or the plant is added to the stable-manure pile.

Maybe some doctors in the rural districts, especially where women's and children's help can be had cheaply, will find a hint here more profitable than the questionable raising of ginseng and golden-seal. Just think of cartons of bird-seed and of culinary addenda, and such. However, this must be tried out; we merely repeat what we have read.

IS EMETINE A BACTERICIDE?

Since Frazier published his article relative to the abortion of typhoid fever with emetine, a number of investigators have been studying the bactericidal action of this alkaloid. Among these, Beekman, whose paper appears in *The Medical Record* of February 12 (p. 284), arrived at the conclusion that the subcutaneous administration of emetine hydrochloride, in 1-2 grain doses every six hours, does not impart any bactericidal properties to the blood, at least so far as the typhoid-bacillus is concerned.

The result of a very exhaustive and careful study of this question has been published by Kolmer and Smith (the latter professor of pathology In the University of Pennsylvania), who, in two articles contributed to the March number of *The Journal of Infectious Diseases*, discuss their attempt to ascertain, first, whether emetine is bactericidal *in vitro*, and, second, whether it is bactericidal *in vivo*. The amebicidal action also was studied, and the fact demonstrated without difficulty.

However, the action of the alkaloid upon bacteria, was not so easily determined. Still, their studies indicate that emetine certainly does exercise some bactericidal action, and the authors ascribe some of the beneficial effects following the use of the alkaloid in conjunction with local treatment, in pyorrhea, to the fact that it is mildly bactericidal, although its principal value in the treatment of that condition undoubtedly must be ascribed to its power of destroying the amebæ fundamentally implicated.

We are particularly interested in this study, in view of Frazier's experience with regard to the bacillus typhosus. According to Frazier, emetine certainly does possess antiseptic and germicidal properties, but this fact becomes evident only if the bacteria are exposed to the remedy for a long-enough period. Given a solution of the same strength as phenol, emetine is from one to five times more efficient as a destroyer of microorganisms. However, its germicidal action is exerted much more slowly than that of the phenol, so that, to determine the full effect it is necessary to continue the observation over a period of ten days.

From a practical point of view, however, and considering the total amount of fluid contained in the human body and the exceedingly small percentage of emetine which therapeutically may be caused to circulate in this fluid, the conclusion of Kolmer and Smith is, that when subcutaneously administered the emetine is so slowly bactericidal as to be of little or no clinical value.

As to the treatment of pyorrhœa alveolaris, with emetine, the authors give it as their opinion that it would seem that the logical treatment of this condition should consist primarily in its local application, but in conjunction with hypodermic injections, especially in severe infections or those accompanied by systemic complications.

To recur to the value of emetine in typhoid fever, we must say that, in our opinion, the problem is opened anew by these interesting papers by Kolmer and Smith. Even if the drug is shown to be only slightly bactericidal, the fact that it has the power of inhibiting and restricting development of the typhoid-organism would open up possibilities that cannot be disposed of immediately. We should have more light upon this subject.

HOW A SOLDIER'S WOUND-DRESSING PACKAGE SHOULD BE CONSTITUTED

After giving a description of the packages for emergency wound dressing, as supplied by the belligerent governments to their soldiers in the field, A. Lohmann, of Berlin, in the *Pharmazeutische Zeitung*, enumerates what he

considers the prime demands that should be met by these soldiers' pocket-packages, namely: (1) construction such that they can be opened easily; (2) the outer cover must be durable, impervious, and uninfluenced by sterilizing; (3) when opened, there must be no danger that the compress for covering the wound will come in contact with the hands —the principle of asepsis must appear throughout.

Inasmuch as, in the author's opinion, the emergency-packages supplied by the German war department most nearly comply with these demands, it would seem well for American practitioners to try to familiarize themselves with them, by securing specimens. He pronounces the French and Russian models as unfit, being subject, under any circumstances, to contamination.

ELATERIN-CATHARSIS FOR OBTAINING SPECIMEN-STOOLS OF TYPHOID CARRIERS

In a study of the results of examination of 290 specimens of urine and 298 specimens of feces, Tonney, Caldwell, and Griffin, of the Chicago Department of Health, reported in *The Journal of Infectious Diseases* for March (p. 239), their method of securing specimens of stools from individuals suspected of being typhoid-carriers.

As pointed out, typhoid-bacilli ordinarily are much more numerous in soft or diarrheal stools than they are in formed stools. Therefore, in order to secure specimens for examination, it is desirable to use a cathartic that will bring down the contents of the small intestine, where the organisms are most likely to lodge; the bacillus typhosus seldom being found in the colon.

The cathartic selected was elaterin, for the reason, first, that it is sufficiently powerful to empty the bowels thoroughly, and particularly, to bring down the contents of the small intestine, and, second, because it is devoid of antiseptic properties. The authors first used this cathartic in connection with a restaurant epidemic for which a waitress, who proved to be a typhoid-carrier, was responsible.

In this instance, three successive specimens of feces collected without resort to the elaterin-purge, were negative. Then this cathartic was administered, after which a fourth specimen was found to contain typhoid-bacilli; these being isolated without difficulty. This was the experience in many subsequent instances, and the conclusion arrived at was that by means of elaterin-catharsis it is possible to secure stools with a maximum probability of carrying the infections.

Another very practical—and almost inevitable—conclusion of the authors is, that a typhoid-carrier is probably most infectious when suffering from diarrhea, and least infectious (perhaps not at all infectious) when not having diarrhea.

BACTERIN-TREATMENT OF CHRONIC SKIN DISEASES

In 70 cases of chronic skin disease, selected because other methods of treatment had proven failures, Dennie and Bufford (*Boston Med. and Surg. Jour.*, Dec. 16, 1915, p. 910) resorted to bacterin-treatment. The subjects were dispensary patients treated at the skin-clinic of the Massachusetts General Hospital and in whom the results thus far obtained seemed unjustifiably poor. Of these 70 cases, 35 were of acne vulgaris, 21 of furunculosis, and 14 of folliculitis.

In the treatment, both autogenous and stock bacterins were tried, in order to determine their relative merits. In order to exclude other influences, all external treatment was suspended while the patients were being vaccinated. The initial dose of the bacterins employed was never less than 100 million organisms. The dosage was gradually increased, however, so that the last injection often contained 2 billions. The total number of doses rarely exceeded ten, and the interval between them was from four to seven days. The administration, however, was governed by the local reaction at the point of injection, such as redness, heat, slight edema, tenderness upon pressure, these symptoms appearing within from four to twelve hours after administration and sometimes persisting as long as forty-eight hours. If this reaction did not occur either at the first or subsequent injections, a new bacterin was prepared and administered, the assumption then being that the right organism had not been selected or that the preparation had been injured in the process of manufacture. As a rule, the general reaction was very slight.

In addition to the bacterin-treatment, attention was given to the simple rules of hygiene, diet, bathing, and the like. Acne-patients were instructed to rub the lather of a nonirritating soap into the affected parts and follow this immediately with cloths wrung out of hot water. After this procedure, the comedones were very easily removed with a suitable instrument. This was

followed by the application of hot and cold cloths used alternately for five minutes. Pus was expressed when present.

The authors give at some length tables illustrating the results obtained in these different classes of cases. The examination of these tables shows the following facts.

Of all the cases treated with bacterins, 64 percent were apparently cured, 20 percent were benefited, and 16 percent received no benefit whatever.

The autogenous bacterins gave better results than did the stock bacterins, except in the treatment of furunculosis, in which no difference could be observed.

In acne, the best results were obtained in the indurated type. The comedo type responded less favorably, and the furuncular type least favorably of all.

The most favorable interval between doses was found to be five days in acne, four days in furunculosis, and seven days in sycosis.

Pure cultures of the staphylococcus albus were found in all of the cases of indurated and comedo acne, and in 7 of the 14 cases of folliculitis. Mixed cultures of the staphylococcus albus and aureus were found in 6 of the 7 cases of furuncular acne, in 3 of the 21 cases of furunculosis, and in 2 of the 7 cases of folliculitis. Pure cultures of staphylococcus aureus were found in 18 of the 21 cases of furunculosis.

The writers give it as their opinion that in furunculosis and in the cases of folliculitis in which treatment was successful, the bacterins were probably directly responsible for the results obtained, but this assertion cannot be proven to be true in the case of acne.

BACTERIN-TREATMENT OF ASTHMA AND BRONCHITIS

Robert H. Babcock writes that during the year prior to his report he employed vaccines prepared from sputum in 6 cases of bronchial asthma. Although a cure has not been obtained in every instance, the results, he declares (*Lancet-Clinic*, Feb. 12, p. 139), encourage him to believe that autogenous vaccines exercise a distinct and curative influence over the bronchitis which so often follows and perpetuates the asthma.

In one case, already reported in *The Journal of the American Medical Assiociation*, a complete cure was obtained; 3 others of these victims were free from their asthmatic attacks for a time, although 2 of these have had a relapse. In only 1 of the 6 cases no benefit was obtained.

It is of interest to learn that, with but one exception, the vaccines proved effective only when they contained an anaerobic fusiform bacillus, this being generally associated with the diplococcus mucosus and the micrococcus catarrhalis.

Doctor Babcock also reports a number of very interesting cases of bronchitis, generally occurring in patients suffering from chronic cardiac or other disease, in which benefit was secured from vaccination. One patient was a woman of sixty, with a blood pressure of 200, who contracted a severe cough which refused to yield to ordinary treatment. Her sputum was found to contain an almost pure culture of the bacillus mucosus, and upon a vaccine from that organism being injected, improvement occurred from the beginning, and a complete cure finally resulted. Several other cases were reported, in which benefit followed exactly the same line of treatment.

Doctor Babcock found that in bronchitis independent of asthma the organisms present in the expectorate mainly were the bacillus mucosus, the diplococcus mucosus, micrococcus catarrhalis, and a bacillus like that of influenza.

OPTOCHIN IN PNEUMONIA

The use of optochin in pneumonia, which has been touched upon once or twice in these columns, seems to gain ground in Germany and Austria-Hungary, judging from the multiplying reports from clinicians of those countries; and from among these we select the following experience told by F. Rosenthal (of an infectious-diseases hospital at Breslau) in the *Therapie der Gegenwart* (1915, p. 181)—emphasis always being laid by every reporter that the course with this drug must be started early in the attack. To be brief:

In two cases of croupous pneumonia, critical defebrilization set in as early as on the *second* day after beginning with the optochin, while all other symptoms were abating concurrently. In another patient, who was put upon this optochin-therapy, the fever and symptoms let up within thirty-six hours after his receiving the remedy. In still another, under similar conditions, the defebrilization occurred in lysis, but much sooner than ordinarily could be expected. However, one patient died on the sixth day; but, then, his condition was unusually grave from the very first.

The dosage was as follows: 8 grains of optochin three times a day or 4 grains every four hours, until a total amount of 72 grains

had been administered. The author did not combine this treatment with camphor, in any of these cases, for he thinks he has observed the latter to interfere with the chemotherapeutic action of the main remedy.

HEMORRHAGE IN A "BLEEDER" RELIEVED BY INTRAVENOUS INJECTIONS OF EMETINE

The following case is described by J. Frank Points in *The New Orleans Medical and Surgical Journal* for February (p. 520): The patient was a white male, age 50, who first discovered that he was a bleeder when he was a child and had a tooth pulled. Ever since, knowing his disposition to bleed, he has taken care not to wound himself. Not long ago, he had an attack of purpura hemorrhagica, and only two years before the present illness he suffered from hematuria that lasted ten days. On September 29, 1915, he noticed that he was urinating blood. His physician was called the next day, as the hemorrhage had grown worse. At this time, the urine was so bloody that it looked almost black, but the patient stated he felt well, had no pain in the bladder or in the kidney region, and that his urine flowed freely. There was no fever and the pulse was 80. Both cystoscopic and rectal examination were refused.

Doctor Points tried a variety of remedies, including injections of normal horse-serum, potassium citrate, urotropin, calcium lactate, chloretone, adrenalin, gallic acid, ergot, gelatin, and tincture of ferric chloride. All these remedies were given a fair trial, but (with the exception of the horse-serum) they produced no effect upon the flow of blood. Finally a second dose of horse-serum was suggested, and injected. As a result, the hemorrhage diminished about one-half, but did not stop entirely, as it did (for a short time) after the first injection of this substance. Within twelve hours, blood was flowing as freely as ever. In the meantime, the patient's blood pressure was going down lower and lower, until it finally dropped to 70, while the pulse increased to 135. Now we will let Doctor Points tell, in his own language, his experience with emetine.

"In my quest for a remedy, I read of the great results derived from the use of ipecac and its alkaloid, emetine, in cases of hemorrhage. I at once procured a supply of emetine in ampules of 1-2 grain each and gave my patient two doses a day, eight hours apart, subcutaneously. The subcutaneous injection had no effect at all, the urine remaining as bloody as ever. The fourth day I began by giving 1-2 grain of emetine intravenously, selecting a large vein at the bend of the elbow. I repeated this injection that evening, eight hours later. Two more injections were given on the fifth day and one on the morning of the sixth day. During all this time the patient's urine showed no improvement. But, on the evening of the sixth day, the urine became so much lighter in color that in spite of all my entreaties I could not induce my patient to take another dose, he being firmly convinced that this was a favorable omen and the bleeding would now stop of itself.

"But next morning the urine was as red as at the beginning. The patient then declared his willingness to submit to my suggestions without any further question. I gave him two injections of emetine a day intravenously for two and a half days, and on the evening of the third day, as on the previous occasion, the blood diminished about one-half. But he was docile and took a sixth injection that evening, and a seventh the next morning. By that time, his urine looked almost normal in color, the albumin had reduced to 1-2 percent, and I decided not to give any more emetine until I would see him that afternoon. On my return his urine was perfectly clear, and it has remained so ever since, some six weeks."

In the final discussion of this paper, Doctor Points states that, in his opinion, emetine is a valuable addition to our armamentarium which is only just now coming into its own. He ascribes the favorable outcome of the case to the emetine treatment.

TYPHOID FEVER IN FRANCE

At a meeting of the Medico-Chirurgical Society of the Fourth Army of France, Boidin declared (*Paris Méd.*, Feb. 19, p. 212), basing his remarks upon personal observation, that the mortality from various typhoidal diseases had decidedly diminished since the autumn of 1914, at which time it reached 18 percent. In the summer and autumn of 1915, the mortality amounted to but 1.6 percent.

This reduction, Boidin believes, is the result of the progressive, and now nearly complete, disappearance of Eberthian (true) typhoid fever, due to the general introduction of antityphoid vaccination. At the present time, not more than 5 or 6 percent of the cases are of the true typhoid type.

Antityphoid vaccination, in the vast majority of cases, protects only against true typhoid fever, not against the paratyphoid. As a result, the latter condition now constitutes about 87 of the cases occurring among individuals who had been prophylactically vaccinated.

These paratyphoid attacks are, for the most part, very mild. Thus, for instance, in the hospital where Boidin was stationed, it had been observed that, while the mortality from typhoid fever varied between 14 and 17 percent, that from paratyphoid B reached only 6 percent, and that from paratyphoid A only 1.4 percent.

These reports, constantly accumulating from all the armies of Europe, have firmly established the prophylactic power of antityphoid vaccination. It is significant, moreover, that Castellani and also others are now giving combined vaccination, in order to afford protection, not only against typhoid fever, but also against the two forms of paratyphoid, and often cholera as well.

A NEW SIGN OF PULMONARY TUBERCULOSIS

A new sign of pulmonary tuberculosis, which is believed to be of considerable diagnostic value, is described by Dr. Clarence M. Wheaton in *The Journal of the American Medical Association*.

In his work at the clinic of Rush Medical College, Doctor Wheaton observed that the skin of tuberculous persons pulled away from the fascia was freely movable and nonadherent. This phenomenon was again striking in cases of early unilateral involvement, and subsequent examination showed that the sign was more clearly discernible on the tuberculous side, while in bilateral involvement there was equal distinctness over both lungs. The sign is elicited as follows:

The patient, with hands resting in the lap, faces the physician, looking straight to the front. The integument is then pinched between the thumb and index-finger and pulled away from the muscle-fascia. It will be observed that over the area of infiltration the integument can be drawn from the chest-wall with ease, as compared with the side where there is healthy lung, and if now rolled between the fingers it will feel in consistency much thinner than a fold of skin taken from the sound side.

This condition or change in the integument of the chest-wall has been observed in very early cases of tuberculous infiltration, with little disintegration of the lungs, both in adults and children. Whether this is a true atrophy of the skin or due to muscle or nerve degeneration, or in some measure dependent on immobility of the chest-wall, Wheaton is at this time unable to say.

SIGNS OF IMPENDING DEATH

There are few single symptoms pathognomonic of impending death, writes Thomas F. Reilly in the *Journal of the American Medical Association* (Jan. 15, p. 160), but there are many striking symptoms which commonly precede death, and with these the physician should be familiar. We can mention only a few of those referred to in Doctor Reilly's exhaustive paper in the small space available in these pages.

Speaking first of pulse indications, Reilly says that a pulse which is irregular for the first time in disease is usually cause for grave alarm.

When the patient is in the recumbent position and the pulse disappears from the wrist for the first time, he rarely recovers, except in cases of true cardiac disease or in sudden, severe hemorrhage.

Pulsus alternans, when it can be appreciated by the finger, always means death within a short space of time—in cardiac disease, within, certainly, a month.

If the pulse of an adult is under 80, then it is safe to say that death is at least more than twelve hours away—but this is not always true of the aged, a slow pulse often being present in these patients up to the moment of death. On the other hand, in old persons, a pulse of 140 means death within a few hours, at most. In children, if the pulse is under 120, death is extremely rare within six hours. Even in coma, a pulse of 100 means that death is at least eight or ten hours removed.

In an adult, with the exception of paroxysmal tachycardia, exophthalmic goiter, pericarditis, and pulmonary tuberculosis, a pulse of 140, continued for more than an hour and not due to some accidental complication, means death. Except in pericarditis, any pulse gradually mounting to 160 per minute presages a fatal termination.

In general, in acute diseases, a pulse that is steadily increasing in frequency hour by hour portends early dissolution, provided other signs of serious illness are present.

Gallop-rhythm, not associated with rheumatic carditis, is always fatal.

In the case of a very ill patient whose pulse has been rapid for weeks and then drops down to 50 or 60, with no marked amelioration of symptoms, except in paroxysmal tachycardia, a fatal termination may be expected shortly.

A persistent, firm pulse in coma associated with hemiplegia is a fatal sign. In all infectious diseases, a sharp, strong, distinct pulmonary valve sound means that death will not take place for at least twelve hours.

Speaking of blood-pressure changes, respiration, and the like, Reilly makes the following observations:

When a very high blood pressure, say of 230, falls suddenly below 100, without any sign of hemorrhage, a fatal issue is in sight.

In an adult, a fall to 40 usually indicates a fatal outcome.

The appearance of well-marked Cheyne-Stokes type of respiration is practically always a sign that death is near, although it may be deferred for a few weeks. It there is associated auricular fibrillation, it does not have the same fatal prognosis as in other conditions.

If the heart will react to digitalis, the patient may recover and live for years, even if the Cheyne-Stokes phenomenon is present.

In any case, when rapid breathing follows the onset of Cheyne-Stokes respiration, death is at hand.

When there is marked disproportion in the length of inspiration as compared with expiration, the condition is very serious; and if coupled with a rapid pulse (except in shock or hemorrhage), the combination uniformly presages a fatal ending. A continued sighing respiration has much the same significance.

In a sick person, the persistent up and down motion of the Adam's apple, such as is seen temporarily in normal patients is the act of swallowing, means, according to the late Dr. John Shrady, a rapidly fatal issue. The phenomenon is probably due to failing of the vagus-center. It is so commonly associated with other signs that it is not of much value except when present in a sleeping patient.

The socalled "death-rattle" of the laity is positively a fatal sign.

The presence of black or bloody-tinged saliva running out of the side of the mouth in a comatose patient is an omen of death.

In the last few minutes of life, there sometimes is an enormous quantity of white frothy fluid flowing in a steady stream from the nostrils. When this occurs, death is only a matter of minutes.

In any very sick patient whose pupillary reflexes were previously normal, but in whom there is now no reaction of the pupil to light, death is at hand. To this general statement, there are some exceptions, namely, in the spinal myosis of the aged, in syphilis or its sequels, brain diseases, optic atrophy, fainting, and hemorrhage. A sluggish reaction under the same circumstances is serious, but not necessarily fatal.

In most diseases, just before death, the pupil dilates widely. Tennyson states this well when he says, "As unto dying eyes the hollow casement slowly grows a glimmering square," meaning thereby that the dilated pupil is unable to distinguish sharply the window-panes.

A glazed pupil usually means that death is at hand. The presence of a film over the eye is always a fatal sign. The death-stare, or fixed eye, is probably due to the dilated non-reactive pupil, although sometimes, if the patient's attention is directed to it, he can actually count the fingers of the hand. It is a fatal sign.

When the eyes are half-open during sleep, the patient is not necessarily *in extremis*, but it is a sign of much gravity, especially if it is not due to prostration from diarrhea.

The well-known Hippocratean facies is an invariable sign of death. The featues presented are: pallor of the face, pinched nostrils, sunken hollow eyes, collapsed temples, cold and translucent ears with the lobes turned out, dropping of the lower jaw, haziness of the cornea, and fixed eyes.

A temperature of 108° F. is not recovered from except in heatstrokes. A temperature of 107 degrees lasting more than two hours is rarely recovered from. A rising temperaturer on the second day after the occurence of hemiplegia is fatal. A temperature of 106 degrees in these cases at any time within the first three or four days means death.

Loss of sphincter control is always a grave sign, especially when coma is not present. When both vesical and rectal sphincters are paralyzed, recovery is uncommon, except in coma and nervous diseases.

The vomiting of frothy mucus mixed with blood, except in acute hemorrhage or in convulsions, is a fairly certain sign of approaching death.

Finally, to quote Doctor Reilly exactly, "In any disease, the presentiment of a fatal issue by the patient at the onset is a bad omen. This is particularly true if severe pain is not present. I have often tried to argue with the patient, in an attempt to eradicate this seem-

ing delusion from his mind, but, in most instances, I am sorry to say, the delusion of hopefulness really existed in my own mind. It gives me a psychic shiver when a patient who is well-balanced mentally and who is suffering from a serious but not necessarily fatal illness says, 'Doctor, I am going to die. I know it.' Likewise, when a patient shows no interest in a consultation held over his bedside, there is grave cause for alarm. When a uremic patient becomes jolly and joyous, a serious condition is present, and very often a fatal termination is near at hand."

THERAPEUTIC INDICATIONS FOR CORPUS LUTEUM

Preparations of corpus luteum (also called lutein—see "New and Non-Official Remedies," 1915 edition, p. 218) are still of rather undetermined value, although considerable interesting clinical work with this remedy has been reported. In *The New York Medical Journal* for January 29 (p. 227), Louis T. de M. Sajous says that no active principle of this body is available as yet, unless the lipoid preparations of Iscovesco are to be considered as such. The material now chiefly employed consists of dried corpora lutea of cows or sows, and this is administered in tablets, capsules or cachets, in 5- to 10-grain doses three times daily. The dried substance usually represents from five to six times its weight of fresh luteal tissue. Preparations collected exclusively from pregnant animals are considered most efficient.

Corpus-luteum therapy, says Sajous, has been used chiefly for the treatment of the disturbances of menstruation and in the correction of the various disorders of the menopause; the best results having been obtained in the climacteric group of cases in which such symptoms as "hot flashes," excessive perspiration, the psychoneuroses, vesical irritation, and digestive difficulties were most marked. In such cases, relief often follows the use of corpus lutem, although it is necessary to continue the remedy for some time, in order to secure permanency of results.

According to Dannreuther, pruritus vulvæ is sometimes relieved by this remedy; this author also advises the routine administration of this body prior to the menopause and following hysterectomy and oophorectomy. Menstrual disturbances amenable to corpus luteum include functional amenorrhea and dysmenorrhea of ovarian origin. According to Dannreuther again, it is particularly indicated in the treatment of these disorders in the slightly obese anemic type of young women who soon after puberty begin to complain of headache, malaise, nervousness, and constipation, together with scanty menstruation and possibly acne vulgaris. The remedy should be given in association with hygienic and tonic treatment.

Sajous advises corpus luteum in cases of dysmenorrhea showing symptoms of ovarian insufficiency, as indicated by irritability, malaise, depression, headache, and scanty menstruation. The drug has also been advised in the treatment of sterility, particularly when associated with infantilism of the reproductive organs, as well as for treatment of a tendency to repeated abortion and for hyperemesis in the early months of pregnancy.

THE TONGUE-SIGN IN TYPHUS

In view of the prevalence of typhus in Europe and the possibility that it may visit us in America, the following "tongue-sign," originally described by Funey and outlined in detail by Remlinger (*Paris Méd.*, Jan. 8, p. 42), is worthy to be kept in mind. This sign is as follows:

If a patient suffering from *typhoid* fever is requested by the physician to put out his tongue, he does so without difficulty, and so completely that it can be examined carefully.

On the other hand, if a patient suffering from *typhus* fever is requested to put out his tongue, the patient has great difficulty in so doing, and even then he can extrude the tongue only incompletely. As Remlinger says, the patient experiences the greatest difficulty in showing the tongue, which hardly passes the dental arch; in fact, it is often held beneath the palate and appears to be drawn back toward the pharynx. Sometimes there is simultaneously a slight trismus, provoked by contraction of the masseters.

VISCOSITY OF THE BLOOD

A. Gulbrink confirms the conclusions, previously arrived at by Holmgrens, concerning the question as to what determines the degree of the blood's viscousness; his investigations showing (*Beitr. z. Klin. d. Tub.*) that this depends solely upon the absolute number of polymorphonuclear leukocytes present. The number of lymphocytes in a given measure is without any influence. The viscosity of the fluid rises regularly with the increase of the particular leukocytes named.

Miscellaneous Articles

The Army of Peace and Conservation

MUCH has been said during the last year or so about preparedness, and putting our country in a condition to defend itself against sttacks by external foes and maintain our national honor among the family of nations. Many plans have been suggested for carrying this object into effect, but none, so far as I have seen, goes to the root of the matter and has in view the most thorough training of our young men for the highest industrial as well as military efficiency and the best citizenship.

Every keen and thoughtful observer knows that a large percentage of our boys at the age of eighteen or nineteen years are entirely destitute of any adequate knowledge of the practical affairs of life and have never received the discipline and training necessary to fit them for the most efficient and best citizenship. How often have we been told recently that they would prove utterly inefficient as soldiers and that it would take a year or more to drill them into a proper state of efficiency. This may all be true, but I want to add that the same thing applies to their entering upon the other vocations of life.

It may be asked, How can these weaknesses and inefficiencies be corrected? My suggestion is as follows: Pass a federal law organizing a great army of peace and conservation of the nation's resources. Draft every physically fit and able-bodied young man at nineteen years of age to serve for two years in this army. This ought to furnish from one-half million to a million men each year. This great army could be divided into several divisions, or departments, as follows:

1. *The Department of Hygiene, Sanitation, and Health.*—This army should be put to work under the direction of competent experts, to drain and reclaim the marshes and swamps of our country and kill off the rats, gophers, prairie-dogs, as well as the mosquitoes, fleas, flies, ticks, and other insect-pests that carry infection and propagate malaria, plague, yellow-fever, typhus, typhoid fever, tuberculosis, and various other diseases.

Do not sneer at this, please, because it is not designed principally to protect horses, cattle, hogs, sheep, poultry and other animals, although it would protect these also; and because it has no superficially apparent financial foundation, for if properly carried out this work would inaugurate in our country such an era of prosperity as the world has never seen.

According to the census of health reports for 1913, over one-half million people died during that year in the United States from preventable diseases. When the economic value of these lives is computed and in addition to this the loss from sickness with all its attendant expenses, the lost time and impaired efficiency of the workers, are added, we have a sum which amounts to two or three billion dollars in *one year*. Under proper hygienic living and sanitary regulations, in a few years, at least half these lives could be saved and much of the suffering and disease as well as poverty could be banished from our nation, and leave us a saner, healthier, and happier people.

2. *The Good-Roads Army.*—Another division of this army should be put to work making a complete system of good roads all over the country. What this would mean in comfort, pleasure, and profit to the automobilists, farmers, and everyone who travels on roads, only those who experience the annoyance, discomfort, and losses arising from the condition of the nation's roads at the present time can appreciate.

3. *The Flood-Preventing Army.*—This department should construct, in the Mississippi, Missouri, Ohio, and other river valleys and along the headquarters of the streams, a system of reservoirs, to store all flood-waters. This not only would do away with the loss of life and property caused by floods and save the great yearly expense for repairs on the rivers, but would furnish water for irrigation and power purposes when the rivers are low.

This is no mere visionary dream, as the plan was carefully worked out by one of the best engineers in the country, a few years ago, and found to be perfectly feasible.

4. *The Reclamation Army.*—This army should construct the great reservoirs, to reclaim the arid lands of the country. It should look after the forest-reserves, save the fallen timber, remove brush and other waste materials, and make the occurrence of forest fires, such as are destroying many lives and millions of dollars worth of property every year, an impossibility.

5. *Military Preparedness.*—In connection with each one of these armies, there should be a corps of officers, to instruct the young men in military drill and tactics, and an hour each day or a half day each week should be devoted to this work. If every Saturday forenoon were devoted to military drill and the Saturday afternoons were given to the young men to enjoy themselves in games as football, baseball, and other field-sports, I believe they would enter into the work with pleasure and vim and make it a great success.

Under such a system as this, a large body of young men not only would receive adequate military training, but they would, in addition, receive that valuable manual training and discipline so necessary to fit them for the work of the world, no matter what vocation they might elect to follow. They would also retain a true perspective of the relative importance of the military and civic function and would not idealize and exalt the position and calling of the soldier above their true place.

Under proper management and control, they would, at the end of two years, pass out of the army a strong, healthy, disciplined body of men, to enter upon the industrial and professional work of the nation. They would become reserves, and for a certain specified number of years would be required to devote a certain amount of time each year to military drill and be subject to the call of their country when it needed their services. In five or ten years' time, our country would have from five to ten millions of trained men; her health conditions and all her natural resources would be improved to an enormous extent, and she would stand as an example to be emulated and imitated by the whole world; and, while accomplishing all these beneficent results, ordinary labor would not be interfered with, because thousands of masons, bricklayers, carpenters and other mechanics would be required to assist in the work and to instruct the young men in their respective industrial work.

The above plan would not interfere with Lieutenant Steever's system of military training for high-school boys so successfully carried out in Wyoming during the last few years. Indeed, it would supplement and give an impetus to it, because it would be an inducement for many more boys to enter and complete the high-school course and, by taking the Steever system of military training, secure exemption from service in this peace army.

E. STEVER.

Fort Collins, Colo.

A POEM BY DR. JAMES H. FERSTER

In the March number of *The Journal of the American Veterinary Medical Association*, we find a notice of the death of one of our old friends, Dr. James H. Ferster, of New York City. Doctor Ferster was one of Manhattan's most prominent veterinary practitioners. A glimpse of his character may be obtained by reading the following poem, which he contributed to *The Trotter and Pacer* some months ago. This poem was written only a few weeks before his death:

I place one hand in God's and then I know
I cannot fall; and then, as far below
As I can reach, I stretch my other hand
And in the slum and depth of wickedness I find
A fallen fellow man. I shout: "Hello!
'Tis Christmas morn—look not below,
But up." I grasp his hand and hold it tight
As mine is held by Thee, and pray for might
To help me put his trembling hand in Thine.
Then Thou wilt draw him by Thy power divine
Unto Thyself. Then he, like me, will stand,
One hand in thine, the other stretched toward man.
For, he can reach some man that I cannot;
He knows some tender chord I have forgot.
And, as I see him lift and place some other's hand
In Thine, I quietly give thanks that Thy great plan
For saving man is through his fellow man.
Give thanks for more: give thanks that God saw fit
In saving men to let me help a bit!

AN OMISSION FROM DOCTOR COPE'S ARTICLE ON NOSEBLEED

Dr. C. S. Cope, of Detroit, has written us that, unfortunately, there inadvertently was omitted an important sentence or paragraph from his article on nosebleed, as printed in our February number (p. 179). In the directions for plugging the nose, the article should have read as follows, which the reader may correct in his copy of CLINICAL MEDICINE:

"Moisten a small pledget of cotton with vinegar, and push up into the nose; and at once take the remaining dry pledget and close the other nostril. You now have, as it were, a cork in both ends of the bottle. The ends

of the strings are carried up over the cheek and made fast with a small piece of adhesive plaster. Cut off the redundant ends and the work is done."

AN ECHO FROM THE DARDANELLES

You have expressed a wish for a reply to your last notice concerning your journal and were wondering why Doctor Wilson hadn't renewed his subscription.

Doctor Wilson left for the front last July and has been most of his time at the Dardanelles, where he has seen and endured many of the terrible sights and sounds of this terrible war. Recently he was put on a hospital-ship and, although the dangers are greater and he has as many as 160 patients to look after, he has more comforts and better food.

The Doctor will no doubt subscribe for the journal on his return (D. V.), for his appreciation of the value of your magazine would be proved to you if you saw how he treasures each copy and the many helpful thoughts and suggestions he has gotten from CLINICAL MEDICINE.

MYRTLE WILSON.

Toronto, Ont., Can.

HEROIC QUININE DOSAGE IN PNEUMONIA

During the winter of 1883, Prof. A. B. Palmer, for thirty years dean of the University of Michigan, and professor of practice of medicine, included in his lecture on the treatment of pneumonia the treatment given below in abstract. I have followed the treatment since then and found that in almost all cases it results in speedy recovery, just as indicated.

I am firmly of the opinion that this treatment is abortive and that the quinine is destructive to the pneumococci. Usually the patient does not respond for from one to three days, but when the symptoms suddenly disappear the patient is convalescent. I have found that such patients bear the quinine well and that it is followed by but little, if any, unpleasantness. I have used it in even larger doses, even in very small children, and have seen patients with symptoms of the most alarming character respond to the treatment and make speedy recovery.

The extracts from Professor Palmer's lecture are as follows:

"The particular method in the treatment of common pneumonia, which for the last several years I have pursued with such results as strongly to recommend it to others, is briefly as follows:

"When called to a patient within twelve to twenty-four hours after the chill or at any time before any considerable exudate has occurred, I immediately give from 6 to 10 grains of quinine, together with 1-4 to 1-3 grain of morphine, which almost invariably in a short time (from one-half to two hours) induces free perspiration and reduction of temperature. I then repeat the quinine in doses of from 4 to 8 grains in from two to three hours and, unless all pain and especially uneasiness is relieved, I add another dose of morphine in four or six hours; but, by all means, continue the quinine in one of the last-mentioned doses until from 30 to 50, or sometimes 60, grains are given. Sometimes from 20 to 25 grains will be sufficient, given in these divided doses, or, if preferred, in doses somewhat smaller but more frequently repeated. But, as the larger quantity is innocent and may be needed, I prefer to give at least 30 and often as much as 40 grains in from twelve to twenty-four hours.

"The effects desired, and certainly as a rule produced, are: a decided reduction of temperature, a marked diminution in the frequency of the pulse, a decided moisture of the skin or free sweating, a slower and more easy respiration, a relief from pain and feeling of fulness in the chest, a diminution of the cough and of the tenacious and bloody character of the expectoration; in short, not only is there a checking of the fever, but of all the evidences, general and local, of the pulmonary engorgement and inflammation, and the quantity of medicine to be given will depend much upon the completeness of these effects produced.

"The slight deafness and ringing in the ears which may or may not result from these doses is a matter of very little consequence, almost always quite temporary, and should have no influence in determining the quantity given. A small quantity of quinine will produce the phenomena in some, while large doses will fail to do so in others, and neither in pneumonia nor in ague are they the measure of the medicinal effect of the remedy or the index of the quantity that will be required or borne.

"As a rule, the treatment required after this will be a general laxative or, if the tongue is much coated, a few grains of blue mass, followed in a few hours by a mild saline cathartic, and this, in turn, by some mild eliminative treatment.

"There may be cases, however early undertaken, that will resist this treatment, but in those occurring under my observation the results as indicated, where the plan has been fairly and thoroughly carried out, with scarcely a well-marked exception, have followed. These cases have been virtually aborted—convalescence speedily occurring, and nothing but a moderate congestion of the lung remaining and this only for a few days.

"If the treatment be commenced much later, and especially if hepatization has occurred and the dyspnea is marked, the morphine must be omitted or given with more caution, the quinine to be given in the same way; the result very generally being, to bring down the temperature and check the extension of the disease, but, of course, not so speedily as to remove all its consequences. And, if marked structural changes have occurred, time will be required and the continuance of more or less pathological action before the lung is restored to its normal state.

"At whatever stage the patient is seen, the quinine in these free doses should be given and the full physiological and therapeutic effect as described should be obtained.

"Even when this treatment is commenced in the hepatized or more advanced stages, the subsequent course of the disease is usually materially shortened, rendered milder and less dangerous.

"Should this treatment in any case fail to produce all the results claimed, it will be harmless at least and other remedies may be used to conduct the case to a favorable termination. A repetition of the quinine and the use of the other means will generally be required when the treatment has commenced at an advanced stage of the disease."

"L."

Kansas.

[The preceding letter is of special interest at the present time, in view of the great interest being taken in the use of optochin, or ethylhydrocuprein (a quinine derivative) in the treatment of pneumonia. This "quinine" treatment was discussed at some length in Doctor Biehn's paper, published in our December number. An abstract describing German experiences with this remedy will be found on page 350, this issue. The trouble with the optochin is that, while it is exceedingly deadly for the pneumococcus it is also a little too toxic for *homo sapiens*—hence the efforts to intensify its activity by conjoint serum treatment.

The commonly used quinine salts have been employed in treating pneumonia by several generations of physicians, and so many have spoken well of its action in this disease that we are not disposed to be too skeptical. I fully believe it has merit, though its usefulness is limited. It undoubtedly stimulates leukocytosis, and we all know the importance of that phenomenon, and the grave prognostic import of a low leukocyte count.

Personally, I should not feel like "resting my case" on the action of quinine. We need the defervescent alkaloids, aconitine, and veratrine, supported by strychnine and digitalin according to indications. These I consider vitally important. Also, we need eliminants, intestinal antiseptics and bacterins. However, I will not try to go deeply into problems of treatment here.—Ed.]

THE CONFESSION OF AN UNSUCCESSFUL PRACTITIONER

Here I am, 55 years old. I am a little fellow, 120 pounds; never did any hard work, and don't look my age by ten years.

I was graduated, at 24, from a very good school, requiring three courses of five months each, some thirty years ago. I did not know much about medicine when I received my sheepskin, but I could talk glibly on medical topics and got the credit of knowing more than I really did.

I began practice in a little Kentucky sawmill-town, because there were no other doctors there. That was a mistake—don't you ever do it. One thinks he can pick up a little ready money and then go to another location. The former is questionable, the latter is true, but it is a waste of time. Go where you want to live, and fight and starve it out. This is the better way in the long run.

I stayed there, in that sawmill-town, two years, got some valuable experience, familiarized myself with the physical and clinical properties of drugs, and made expenses. One incident will illustrate how I got experience.

A baby in the neighborhood had been given up to die by the old attending physician. My medical education regarding these diseases of children had been very meagre. I had had only a few lectures on pediatrics, and as I was not interested in children, I had paid very little attentoin to them. Well, the old women decided that the "young doctor" might be able to do something. As I knew very little of medicine and nothing of children, I had nothing to lose. I remem-

ber now that I administered minute doses of bismuth and saccharated pepsin, stopped all food, looked as wise as I could under the circumstances, said very little (didn't know what to say), and took my departure. The child got well. No, I did not cure it—I said, *it got well*. I was a hero. Suddenly my reputation was established. Alas for my ignorance, people began to send for me for their sick children. Then it was that I got down my old neglected Smith and went at it. The more I studied that book, the better I liked it. I began to notice children, to take an interest in them, and I began to like them, too.

My practice grew, and years afterward I was known as a great baby-doctor. I finally gave that work up, because the people who needed me worst were the least able to pay; and I had to make a living; so, I drifted into other lines. So much for that.

My next location was in Florida, where I formed a partnership with the leading doctor. He had a large business, was popular, but careless about his collections. As I was a poor mixer, I took charge of the books, looked after the collections, and did a little work. Most of the real money, however, came from the old man's clientele, so, after a year or two, we dissolved the partnership and I tried it alone.

About this time, I had some family troubles, and, as I did not know the trick of getting practice, I soon fell behind, closed my office, and returned to Kentucky. Here, I opened a practice in a small school-town, where I remained two years, saving up about two hundred dollars.

I took this money and went to a boom-town in the eastern part of the state, where I invested in real estate. In five months, I had about five thousand dollars' worth of property, a good drug store, and was prosperous. My store burned, the town went down, deferred payments came due, and I left in the fall for the west with fifty dollars that my brother had loaned me.

After roaming around about a year, doing such things as I could, I found myself in a western city, where I got a job in a hospital that had about a hundred beds. I remained here a year, learning more medicine and surgery than I ever knew before. Then the city administration changed and I was let out. My salary, $50 a month, I had loaned to the nurses, at interest, and when I was deposed they beat me out of all of it.

Then I came south to my present location, arriving here with a five-dollar bill in my pocket. I formed a partnership with the leading doctor, and we prospered. I had lived well and, besides, at the end of a year, had two hundred dollars in the little Jim-crow bank of the town. Our local bank failed and made an assignment, so, I lost that little accumulation.

My partner knew very little of medicine, but he was quite a society man, a good mixer and dresser, and we had a good business. I did most of the surgery, and when he or we had a bad case it was I who burned the midnight oil, worrying over it and pulling back to life many who would have died but for my special effort. At the end of five years, I had enough of it—me doing the work, he getting the credit; for, as I said, he was a good mixer, and it was a fact that I would explain a perplexity to him and he would explain it to the family much better than I possibly could.

I then opened an office for myself, which I maintained about two years. Then I went to Europe for a year. I lived in Paris and attended the famous clinics of that gay city. I returned home and resumed practice. During all these years, I was a member of the medical societies. I paid my good money to the railroads, to attend the meetings, while the other doctors rode on passes. I read papers that were well received, and I was often on for a humorous toast at the banquets. I also wrote some for the medical journals—thankless task. My practice was never large, for I always disliked exertion; still, it was adequate for all my needs and I invested the surplus in local real estate. This was another error. For, property went down and taxes went up; deferred payments fell due and I had to borrow from the banks to meet them, and then I had to hustle to meet the interest; in the end, being forced to sacrifice some of it in order to meet the principal; so, instead of growing richer, I became poorer.

Then—would you believe it?—I got married, and now real expense began. Before this, I could sleep in my office, eat at some restaurant where they owed me, and could get along with very little money when practice and collections were slack. Now, though, I had to have a house, a home, a 'phone, light, heat, fuel; had to provide groceries and clothing for two, and these of better quality than I had had before. Consequently, I made no headway in getting rid of my debts—on the contrary, was forced to sacrifice more of my property in order to meet the deficit.

Before marriage, I had been in the habit of going away every year to some large city, to attend the clinics, or to California or Mexico: also to buy any new book or journal that I fancied. Now, the only traveling done by our family consisted in the visits of the wife to her parents living in another state. I myself remained at home.

I grew morbid. I hated the people who hired me but never paid. The very 'phone got on my nerves. Someone would ring up and say, "You are wanted down at So-and-So's." "Wanted!" just as though I were a thing to be whistled for, like a dog. By and by, a strong aversion to general practice grew on me; besides, I was getting disgusted with medical societies and the unethical doings of doctors. They talked against commissions paid to druggists, but paid them; they had fits if a member's name appeared in the papers, but they advertised in sundry and divers indirect ways. Then they went surgery-mad and began to cut everybody that had the price. What I mean is, that those standing highest in the societies did these things. Later, those who could not operate, because they had had no training, took up the surgical work, and they began to learn on their patients. It was awful. Yet, I venture to say that my town is no worse than any other. The country has gone surgery-mad.

Don't understand me as opposing legitimate surgery—as a matter of fact, I did the first surgical work ever seen in this town. But, I had a rule that was a hard one for me to get over, and that, moreover, has got me into my present "bad fix." This rule was the old fashioned Golden Rule, never to do to another that which you would not be willing to have done to yourself if your position with regard to the patient were reversed. This rule of justice has kept me from making much money; but, at least, it is not the thought that I cut off someone before his time that keeps me awake nights. The following may serve to exemplify my meaning:

A married woman came to me for treatment, and it looked as though she had to have an operation (the nature of the trouble is not material here), and I told her so. She was willing. The price was agreed upon. As the condition was not an urgent one, I sent her home with a reconstructive, feeling that she would make a better recovery for preliminary treatment. She returned at the specified time, bringing the money with her, one hundred dollars. An examination proved that she was so much better than when she left me that I told her that she did not need an operation. How many other doctors do you know—poor fellows like me—that would do this thing?

You think, no doubt, that I am making myself out a pretty honest sort of fellow. Right you are. I *am* honest. That is why I am so darn poor. And now the high tide of practice has moved on past my door.

I am making an effort to do a little chronic-disease work, which I can do in my office without going out. I can not compete with the younger men—I do not understand the microscope. I am rusty as an operator and fear to attempt operating, even if I could get suitable cases. I cannot go out nights; besides, only those who cannot get a doctor with an auto-car will call me, and they are no good.

My position is similar to that of many other doctors in this land of ours, who, having given the best years of their lives to their profession, now find themselves laid on the shelf before they are incapacitated.

What are we to do? I could still do office-work, if I could get the patients. I am particularly strong on curing piles and well fitted for doing that work, but those victims who have money go elsewhere, while those who are broke make unreasonable demands, besides being more ungrateful for what you do for them than those who pay.

Pauper practice is a most undesirable practice. Mark that down. If you make good, they will send you more of their stripe; if you fail, they will ruin your reputation, if they can. Pauper surgery is even worse; for, these people will get a shyster lawyer to sue you for malpractice, and the average hayseed jury will give a verdict against you. Even if you are financially protected by an insurance company and do manage to win the suit, the very fact that you have been sued will injure you in the community.

Again I ask, What can we do? I know no other trade. My wife thinks I could make a living at writing. Well, maybe I could, if I had begun earlier. But, at my age, it is one thing to write a rambling letter to a medical editor, who is used to revising the Mss of the average country doctor, and quite another thing to write an article for a lay magazine for which you expect real dollars.

Farm or garden? I don't know the first thing about either; besides, I am not strong enough to do manual labor, neither do I have the inclination to do aught but the chores and tend the horse—which latter I sold

pending the time when I can "afford a car."

I still owe $500, and it seems that I am now at the end of my tether; can't even keep up my subscription for my medical journals. And, yet, I "put up a good front," as it is not well to show the world. Folks in this town don't really know just how hard up I am.

Alas, I wonder how many other old boys who may read these lines will recognize in my situation their own as well.

"ROY RAY."

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[This is a real letter from a real doctor, who prefers to hide his identity under a pseudonym.—ED.]

THE PESSIMIST

Dr. J. L. Vaughan, of Brooklyn, New York, writes us as follows:

"When in the February number of the journal I read 'The Optimist,' by Milton Ruggles, the enclosed poem, which may be titled 'The Pessimist,' immediately came into my mind. I am sending it to you, in the hope that you will publish it in CLINICAL MEDICINE."

Here is the poem, which, by the way, is good stuff:

Gloomy and despondent, full of dreadful fears,
Joy today and sunshine, nought his spirit cheers;
Fearing, doubting, dreading, his hopes are but few—
This is the pessimist.
Does this mean you?

Never any laughter, life too full of wo,
Looking on the dark side as days come and go,
Losing sweets of friendship, and its blessings, too—
This is the pessimist.
Does this mean you?

Forever crossing bridges that his feet will never reach,
Learning not the lessons that Father Time would teach,
No trusting in the future, can neither dare nor do—
This is the pessimist.
Does this mean you?

MEANING OF THE INDIANA ANTI-NARCOTIC LAW

In your February issue, I notice, on pages 110 and 111, an article concerning the Indiana Anti-Narcotic Law. As secretary of the Indiana State Board of Veterinary Medical Examiners, I submitted to our attorney-general the following:

"*Dear Sir:* The State Board of Veterinary Medical Examiners would like a ruling on the following provision in the state law governing the sale of narcotics:

That nothing in this act shall be construed to prevent the legitimate administering of said drugs, their salts, compounds and derivatives by a duly registered practicing physician, duly licensed veterinarian or duly licensed dentist.

"We desire an opinion on the meaning of the words 'legitimate administering.'

"Under the provisions of this law, the State Board of Veterinary Medical Examiners may be called upon to revoke licenses, as one of the penalties for violation is the revocation of the license held by the offender, and in this way, should the matter involve a veterinarian, the question of the offense and penalty would come before our board.

"That we may be prepared to deal with the matter and answer questions submitted to us, we ask for this opinion."

To the foregoing, I received the following answer:

"*My Dear Sir:* I am sending you enclosed a copy of an opinion of Attorney-General Thomas M. Honan, made on the 28th of January, 1913, which I think fully answers your inquiry.

EVAN B. STOTSENBURG, *Attorney-General.*

HONAN OPINION (COPY)

My Dear Sir: In reply to your questions concerning the effect of certain provisions of House Bill 277, known as the Keegan Bill, I beg to say that the provision prohibiting any person, except a licensed pharmacist, to retail, sell or give away cocaine, etc., does not prohibit the *bona fide* use or administration of such drugs by a licensed physician, dentist or veterinarian in his practice. It is my opinion that *bona fide* dispensation, use or administration of such drugs by a physician, dentist or veterinarian in his practice is neither to retail, sell or give away such drugs.

Furthermore, the bill contemplates that a licensed physician, pharmacist, dentist or veterinarian may buy such drugs of the wholesaler, jobber or manufacturer. In giving the physician, dentist or veterinarian this right, the bill contemplates that the physician, dentist or veterinarian may lawfully use such drugs in other ways than to retail, sell or give them away.

Yours, etc.,
THOS. M. HONAN,
Attorney-General."

If you will get an abstract of an opinion given by the United States District Court, Western District of Tennessee, dated June 1, 1915, you will find there is no limit upon the quantity which a physician may dispense, provided such dispensing is to meet the immediate needs of the patient and is made in good faith and as a medicine.

A summary of the judicial interpretations of the word "administer" will be found in the cases of McCaughey vs. The State, 156 Ind. 41. People vs. Quin, 50 barb. (N. Y.) 128; La Beau vs. People, 34 N. Y. 223; Chandler vs. State, 105 Pac. 375;

Burris vs. State, 84 S. W. 453; State vs. Jones, 53 Atl. (Del.) 958; Filber vs. Dauterman, 26 Wis. 518; Blackburn vs. State, 23 Ohio St., 146.

I wish to submit the above, hoping that it will help your readers and yourself in answering some of the questions asked you about the Indiana Law.

HARVEY J. KANNAL,
Secretary of the Indiana State Board of Veterinary Medicine.

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[This correspondence will interest every Indiana reader of CLINICAL MEDICINE, and doubtless many living in other states. The opinion of the attorney-general is clearly set forth, and should set at rest the lingering doubts of physicians who are being intimidated by the suggestion that it is illegal for them to dispense narcotics in Indiana. Our advice is for every such physician to go straight ahead with his practice along usual lines. Obey the law strictly, *do right always*, and tell the scare-mongers and trouble-threateners to go to——!—ED.]

EMETINE IN TYPHOID FEVER

My cases of typhoid have all completely recovered under the emetine treatment, which more than pays me—thanks to CLINICAL MEDICINE.

As long ago as 1872 I remember reading in Beck's "Materia Medica" the statement that, "of all the medicines in the materia medica, there is none that has so salutary an effect on the intestinal mucous membrane as ipecacuanha." I believe this statement. Ipecac stands in about the same relation to intestinal maladies as quinine does to fevers in general. While specific in some cases (or diseases), it is inhibitory in others.

Some time ago a woman came to me suffering with muscular rheumatism. I gave her six hypodermic doses, 1-2 grain each, of emetine hydrochloride, with complete relief. Her trouble was evidently due to intestinal intoxication.

I have had excellent results in a case of enterocolitis in a child two years old. The temperature dropped from 106° F. to normal in twenty-four hours after two injections of emetine; at the same time I gave Dover's powder by the mouth and high injections of normal salt solution. This is important, as it washes away the mucus and detritus which would keep up the source of poison. This patient has completely recovered. The child was sick about two weeks. These cases often terminate in death, or recovery is very protracted.

I am of the opinion that this treatment would have come into general practice long ago, but we did not know how to give the remedy in sufficient dosage. As advised by Loomis, I used to narcotize my patient in order to so blunt the sensibility of the stomach as to make it hold the ipecac. I have gotten good results, but one dislikes to put his patient through this ordeal. Thanks to emetine hydrochloride, this method is no longer necessary.

I thank Doctor Frazier for bringing this emetine treatment of typhoid-fever to light.

H. H. SMITH.

Lexington, O.

"TROUT FLIES"

This is the title of a little book published by the Northern Pacific Railroad and prepared very largely by a good friend of every reader of CLINICAL MEDICINE, Dr. Charles Stuart Moody. It tells all about trout fishing, and also something about bears and other game as found in the lakes, streams, and mountains of northern Idaho. Every doctor who is planning to take a vacation this summer and hasn't fully decided where to go should get a copy of this booklet. Write to the nearest agent of the Northern Pacific Railroad or directly to Dr. Charles Stuart Moody, Hope, Idaho.

A PORTABLE HOSPITAL

Kindly give me a rough idea of a portable hospital for 750 men. About two percent, or fifteen men, is a moderate number to be confined to the hospital at any one time.

"CONTRACTOR."

———, Montana.

—

¡We referred "Contractor's" letter to Dr. John A. Hornsby, editor of *The Modern Hospital*, of this city, and asked him to give us the benefit of his advice. Doctor Hornsby's letter follows:

"Perhaps the best answer that I can give to this gentleman is to tell you what I myself did in a similar situation. I was employed in 1899-1900-1901 as surgeon for the White Pass and Yukon Railway on the construction of 125 miles of railway from tidewater to the head of the Yukon river, on the southeastern coast of Alaska. I was directed to make out a list of requirements for feeding, housing, nursing and providing hospital care

for a maximum of 5000 men, and I was informed that I was to make out the complete inventory of all food, clothing and housing paraphernalia to last at least for one year, because it was entirely possible that after winter closed down we would not be able to get new supplies until the following summer. It is unnecessary for me to tell you any of the interesting incidents of this Arctic service excepting in regard to our portable hospitals.

"We housed all of our sick in tents, and usually these tents were made of standard size 20 x 40 feet of 12-ounce duck. We bought them already made up, and whenever we opened a railroad camp we set up one of these tents as a part of the camp equipment. It was built as follows: newly cut rough timbers were laid down to occupy a space 20 x 40 across the short way of the tent. Then 2 x 4's with 2 feet centers were laid on these timbers and 1 x 12 boards, lightly nailed, were laid on the 2 x 4's. Then 5 feet lengths of 2 x 4's were nailed vertically around the edges of this floor at intervals of 6 feet. Then, on top of these verticals, horizontal 2 x 4's were nailed all around. If we could find a ridge pole 40 feet long in the timber, we cut that, and if we could not, we used a 2 x 4 and made the frame work of a double pitched roof out of the 2 x 4's, resting the lower ends on a horizontal piece that had been set previously. At intervals of 10 feet we ran 2 x 4's across, nailing these to the rough supports at a height of about 7 feet in order to give strength to the structure. Then we stretched our canvas over this frame-work. It came down to within 3 feet of the floor. We then ran 1 x 12's three feet high, all around, excepting at the door end and there we left a space for the door, making the frame out of 2 x 4's. The door was made out of 1 x 4's, with canvas stretched across. Sometimes we had hinges and sometimes pieces of leather, sometimes we used merely a tent flap for the door.

"No matter what the weather was we framed in a bed of sand on the floor, about 6 feet square and down to the ground, cutting a hole through the floor for the purpose and letting the frame go clear down, and coming above the floor about a foot; and on this sand bed we put a Sibley tent stove with a damper in the pipe and with a spark screen at the top of the stack, which went through the tent roof about a foot to one side from the ridge pole and was held in place by a thimble with a hole cut the right size to pass the pipe through. This spark screen kept the tent from catching fire and we had no trouble after we acquired experience enough to use it. The three 12-inch pieces around the sides of the tent could not be laid so close together but that there would be a little wind come in occasionally; sometimes we chinked these cracks with moss or when non-absorbent cotton was plenty, we used that, or when we had it we used a yard wide piece of canvas all round.

"All this work was put together so lightly that we could knock the tent down in a few minutes and build it again almost as quickly. We moved the material from camp to camp.

"Once I got some erysipelas in one of my camps and because the hospital had not cost very much money I could afford to walk out of it and set fire to the whole business. The fire left my metal beds and springs so that they could be used again, but thoroughly disinfected them. I kept my medicines and surgical supplies in a small 12 x 6 tent which I usually erected for my own occupancy at these camps. The tent was so located that patients were fed from the main cook tent of the camp. I did my surgical work either in my own tent or walled off a small area approximately 10 feet square, at the back of the main hospital tent, using canvas to wall off the space. An operating table of the simplest possible pattern, the kind usually used as a dressing table and which cost about $25.00, and a few basins, were about all that I carried with me for operating equipment. Chairs for patients were made by the camp carpenter of the old style canvas seat sort. Sometimes my operating table was chopped out of virgin timber.

"There have been better hospitals than those I had on the White Pass road, but I doubt very much whether there ever was a hospital where patients could get greater comfort and more aseptic care. I used these hospital tents on the extreme summit of the coast range of mountains of Alaska where the wind frequently blew 100 miles an hour, where the snows in the course of the winter accumulated to a depth of 40 feet or more and where it was no infrequent occurrence that the temperature went to 60 below zero. In extreme cases, where my camps were above timber line, wood for the camp was carried on mule back as much as 2000 feet above the timber.

"Your inquirer might be able to find portable houses built by people who are in that business, and that would answer the purpose that he is thinking about, but they

will never answer any better, they will cost more, will be infinitely more trouble to move, and two or three uses of them will put them out of business, whereas the scheme that I have outlined has lasted me a dozen times, for a dozen different camps.

"I should have said that the hospital tent made in the way that I have suggested would have cracks between the boards of the floor. We used to sweep accumulations of dirt and dust into these cracks, and in order that there might be no draft up in the room, we shoveled the dirt all around the edge of the tent until the air was completely shut out of the basement.

"I took care of all sorts of surgical cases, typhoids, pneumonias, post-operative cases of all sorts, in fact everything that came along, and if I were going to maintain a hospital service for a field corps again I should certainly do the same way that I did before."

Doctor Hornsby has certainly covered the ground thoroughly. I am sure his letter will prove of value to many readers of CLINICAL MEDICINE.—ED.]

PITUITRIN IN ECLAMPSIA AND PLACENTA PRÆVIA: GOOD SUGGESTION

I reported in CLINICAL MEDICINE the successful use of pituitrin in a puerperal-eclampsia case on November 17, 1913. You scouted the idea that it controlled convulsions. I see, from the article on enclosed clipping, that a German reported its use in February, 1914, for eclampsia.

I also used pituitrin in a case of placenta prævia on March 21, 1915, and with success. I believe the patient would have bled to death without it. I believe that in time it will have a well-earned place in both conditions.

J. S CARRIGER.

Chelsea, Okla.

[In the clipping enclosed, Schlossberger reports (through the *Deutsche Medizinische Wochenschrift*) two cases of puerperal-eclampsia treated with pituitary extract and pantopon, the latter being a proprietary opium preparation. Apparently the pantopon was given for its sedative action and the pituitary preparation to hasten delivery.—ED.]

STILL MORE ABOUT SORE THROAT

I admit that it is somewhat late to write on throat troubles and their treatment. I do not, in general, disapprove of the treatments recommended in recent numbers of your valuable journal; still, I think a few remarks on my part may suggest a few additional ideas of value to your readers.

In the first place, I contend that few diseases of the throat are, originally, caused by germ infection. Rather, the cause is to be found in local lesions, such as congestion of some sort and of outer or inner origin, which provide a soil or hotbed for the germs to proliferate in. Wrong eating or other sins against nature may have reduced the resistive power of the blood or lymph circulation. A chill, or what is commonly known as catching cold, whether through insufficient clothing or change of clothing to suit the temperature or state of health, sitting in a cold room, draft, or in wet or sweaty clothes, will do likewise. Carious teeth often cause inflammation of the nerves of these parts, and, so, reduce the resistive power against disease. There will be no follicular tonsillitis, pharyngitis, and the like, when these parts are kept free from becoming diseased.

A healthy throat will resist the germs, or, in other words, will not give hostage to favor development of the germs usually found in such throat troubles. No matter how many diphtheria patients there are in a house, if the throats and noses of the other occupants are healthy they will not contract the disease.

Hence, the first thing to do is, to prevent debilitation of the system, more particularly preventing lesions in the mouth and throat. I could give plenty of illustrations to substantiate these assertions.

Now a few words as to the treatment of acute diseases of the throat. The first instructions should be to take nothing cold into the mouth, much less swallow anything colder than the blood. Why should one refrain from chilly air, and not from chilling the mucous membrane of the mouth and throat? Hot water will do everything, so far as therapeutics is concerned, that cold water will do; and it is sure to do no injury. Hot water will stimulate and will act as a diaphoretic, open the pores and assist the cell action of the body to eliminate waste.

As to elimination and antifebriles, enough has been said. Give continuously laxative salines that cool the blood and carry away waste material.

Now as to diphtheria. If the physician is called in time—that is, when but few, if any, patches have formed—one of the best treatments is, to swab the throat carefully with a solution of peroxide of hydrogen, followed with a 10-percent solution of camphophenique in liquid petrolatum. This the

attending physician should do. Then prescribe a good antiseptic gargle. Allow no cold water to be taken into the mouth, much less to be drank.

If there is present any adenitis, prescribe a 5- or 10-percent ichthyol solution in glycerin, to be applied externally to the glands of the neck and throat and then covered with flannel. Keep the patient in bed! This course will abort diphtheria, if fully carried out.

These are, in the main, my rules of practice, and I never have a second case of diphtheria in the same house where the subsequent patient is not already infected when I get to the house. And I have never had the misfortune of being called upon to make out a death-certificate naming diphtheria, in any case in which I was the physician from the beginning of the attack—I mean a case in which I was the first physician called.

R. WILLMAN.

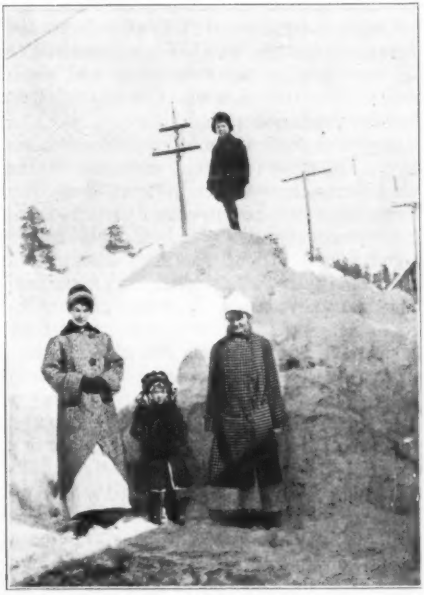
St. Joseph, Mo.

[Whatever the doctor's opinions about the *cause* of diphtheria, he should never delay the administration of antitoxin.—ED.]

LOBELIA IN VOMITING. A GOOD SPOT FOR THE SUMMER VACATION

We are just relieved from a two-weeks' snow blockade, and I am sending you a few pictures, to give you an idea of how deep our snow is out here. We have had eleven feet of snow fall so far this winter. In March, though, we shall have what, I think, no other place can show in the way of sports. Around the big hot spring, the snow disappears and the ground dries rapidly. On a warm March day, a person may watch from where he is seated, a ball-game and a ski contest going on at the same time.

When the paths are shoveled out.



We have "some snow" at Pagosa Springs.

If you know of any doctors who like the outofdoors and want some new place to go to this summer, just send them to Pagosa Springs, Colorado. They can get here by auto in the latter part of July or in August. This spot cannot be beaten by any place in this country or any other for beautiful and interesting places, while the trout-fishing here is excellent.

Now just a word about three cases I have had, in the past four years, of pernicious vomiting during the latter part of pregnancy. They were all severe; associated with the vomiting there were a coated tongue, constipation and chills. I gave hypodermic injections of Lloyd's lobelia, up to 1-dram doses, twice a day, for about a week, and they all got along nicely and had no more trouble. All three women have good, healthy babies, and labor was normal. I have also

used this lobelia with splendid success in spasmodic asthma and croup.

I am not trying to boost Lloyd's lobelia, but I believe that in it we have a wonderful remedy.

A. J. NOSSAMAN.

Pagosa Springs, Colo.

AS TO THE VEGETABLE FEVER-REMEDIES

The article on the "various vegetable fever-remedies," by Doctor Ellingwood, in the February number (p. 113), has suggested to me that perhaps my own study and experience in this direction might be of some help to other practitioners.

Aconite.—Patient robust, full-blooded, active. From some sudden depression of the vital forces, exposure to cold, accident, and so on, an invasion of pyogenic bacteria takes place, accompanied by a hard chill and a high fever—a violent reaction—skin hot and dry, and pulse full, strong, and bounding. This, naturally, causes a hyperemia in various organs, any one or more of which may later develop a true inflammation. This hyperemia may be so great as to cause actual bleeding of the organ involved; also this pressure on the nerve-endings causes, usually, severe pain and restlessness, even amounting at times to such an unbearable condition that the patient believes he is going to die and rolls and tosses around the bed in mental as well as physical agony. This condition usually disappears within twenty-four hours and passes into a stage of actual inflammation, of which bryonia is the remedy-type. Consequently, aconite is seldom useful after twenty-four hours, and, as old people are not of this robust and full-blooded type of individuals, aconite is seldom useful in the aged.

It is interesting to note that the next remedy to be considered has been found as a mineral constituent of aconite, hence, some of the interlocking indications. The dose does not need to be large; 5 drops of a good tincture of aconite in two-thirds glassful of water, a teaspoonful of this every fifteen minutes till effect and then discontinued, being my rule.

Ferrum phosphate.—Debilitated subjects, anemic, relaxed musculature. From the same cause as given under aconite, they have localized congestions, here or there, but local in character. There may be vomiting if this congestion is in the stomach; epistaxis, if of the nose; inflammatory conditions following mechanical injuries, and so forth. Useful in old age, especially; also, in anemic children. I have often used it with good results in the first stages of acute inflammatory rheumatism of the joints.

Like aconite, ferrum phosphate is not indicated after the stage of inflammation has set in, that is, after twenty-four or thirty-six hours. After this stage, other remedies are indicated.

A few scales of ferrum phosphate are put into two-thirds glassful of water and then frequently and vigorously stirred around till dissolved. Of this, a teaspoonful is administered every fifteen minutes to half hour, according to the urgency of the condition.

Belladonna.—Bilious, lymphatic, plethoric constitutions; persons who are lively and entertaining when well, but violent and often delirious when sick. From the same causes as named under aconite, they come down with a chill and a high fever, with a kind of globular shotlike pulse, throbbing of the carotid arteries, red face, and a pounding headache. If this congestion to the head is not too severe, any noise, jar, motion, light or exertion will make the headache worse; if the congestion is severe, they become drowsy, their pupils are dilated, and they frequently wake from sleep with a startled cry and a fear of imaginary things, but in a minute or two promptly return to their somnolency. The skin is moist or sweaty under the cover, but dry where not covered.

I have used belladonna almost exclusively in the beginning of scarlet-fever of the true Sydenham variety, with excellent results. It is equally efficacious in any disease where the above syndrome is present. Dose: 5 drops of the tincture stirred into a half-glassful of water, and of this one teaspoonful every fifteen minutes to half hour till results; when the disease will usually pass over into a form in which calcium in some form is indicated. The writer prefers calcidin.

Gelsemium.—Children, young people, women, a nervous hysterical temperament. Complete relaxation and prostration of the whole muscular system, ofttimes with entire motor paralysis—at least trembling, weakness, confused muscular coordination—looks and acts of the intoxicated, besotted. Frequently seen in typhoid fever, but may occur in any disease. In those cases of neuralgia sometimes spoken of as cervical, where the pain commences in the cervical region and passes up over the head, or in which the anticipation of any unusual ordeal will cause a diarrhea, I have had good results from gelsemium. In cervical neuralgia, as stated above, I often

resort to the freezing method of Abrams, with the best results. As with all remedies, gelsemium should be exhibited in small doses and repeated to effect.

Veratrum.—Indications as given by Ellingwood are very good, indeed, and I can confirm every one of them.

Bryonia.—Indications as named by Ellingwood are correct, only I would add that all motions aggravate the pains, and that they seldom "stitch," unless there is a movement which rubs the dry and inflamed serous or synovial membranes against each other.

Rhus Tox.—The indications, given by Ellingwood are good, but I would add that the movements are exactly opposite, that is, movement will alleviate the pain of rhus tox. The patient gets "limbered up" by moving about. This is accounted for by the seat of pain being usually in the muscular tissue or tendons, instead of in the synovial membranes.

A. E. COLLYER.

Raton, N. M.

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[If Doctor Collyer will substitute aconitine for aconite, atropine for belladonna, gelseminine for gelsemium, bryonin for bryonia, and so on down the line, we shall find ourselves pretty nearly in accord—and he'll be delighted with the results, or I miss my guess. Aside from the convenience of the active-principle granules and tablets, with the absence of the muss and discomfort attending the dispensing of liquids, these other advantages of the alkaloids must be considered:

Acuracy of dosage.

Uniform and unvarying potency.

Permanency—no evaporation of liquids, and slight variation with age resulting from heat, light or humidity.

STYPTICIN A "NARCOTIC" UNDER THE FEDERAL LAW

Here is a problem arising from the enforcement of the federal antinarcotic law.

I was called on the 'phone at night, after the ferry had stopped running, to attend a woman suffering from profuse menorrhagia. It was impossible, under the circumstances, to visit the patient at that hour. Accordingly, I telephoned a druggist in her town to put up the following prescription:

Stypticin.....grs. 8
Fl. ext. ergot.....ozs. 1 1-2
Elixir simp., q. s., ad.....ozs. 2

I told the druggist that I would send the original prescription as soon as possible. However, he absolutely refused to fill this, stating that the Harrison antinarcotic law prohibited his doing so. I was certainly "up against it," since the patient was slowly bleeding to death. And yet I was powerless! The druggist told me he would not violate the law if everybody died. Please tell me if he had filled the prescription that night would he have violated the law?

J. H. O'NEILL.

Morgan City, La.

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[Replying to the Doctor's letter, we at first answered "No" to his question, but on looking into the matter we find that stypticin *is* a derivative of opium, since chemically it is cotarnine hydrochloride, which is an oxidation product of narcotine—one of the little-used opium alkaloids; technically, therefore, it is an opium derivative and, as it comes under the purview of the law, the druggist was justified in refusing to fill the prescription. And yet, we cannot believe that if he had consented to do so, anyone, not even the most technical-minded official, would have tried to make him trouble.

But isn't it absurd to place a substance like stypticin, which, so far as we know, has never been used as a narcotic and really has no narcotic properties, under the rigid supervision of the federal law? This is another of the absurdities of this exceedingly useful Act. It needs revision to clear up these minor difficulties which are causing so much inconvenience and anxiety to the medical profession.—ED.]

AN IDEA FOR UTILIZING "CLINICAL MEDICINE"

I have been a reader of your journal for the past year, and I like it very much; and here is an idea in which you may be interested.

For several months I have been in the habit of cutting out the various therapeutic suggestions your various correspondents report having found satisfactory in meeting certain indications. These clippings I index and file away, to be given a trial at some future time. It has occurred to me, however, that perhaps many of the remedies I should never have occasion to use, while some of those tried may prove disappointing; and, then, at the finish, after I have passed a lifetime in weeding out, all that I have thus laboriously learned will die with me. Moreover, I think that what I am doing every physician in active practice also is doing to a greater or less extent.

Now, if all this work were systematized and the collective results put in permanent

form, it would save every individual doctor going over the same ground. So, then, I venture to offer a suggestion; and my idea is this:

Enroll, say, one thousand subscribers, or as many more as are willing, in a joint work of investigation, to try out rational and definite suggestions, each of which is to meet a given indication. Let them report results to a central head who has the direction of the work. In this way, after a year or two, a great deal of ground can thus be covered. The information thus gained should be put in book form, then each of the collaborating physicians should receive a copy in case he has contributed to the results; otherwise, he ought gladly to buy the information the book may contain.

To put the idea in a concrete form: Recently I have been trying calcium sulphide in a case of dry tubercular pleurisy. It appears to me to have done good. Now, if at the request of CLINICAL MEDICINE a thousand clinicians put this drug to the test in their cases of tubercular pleurisy, as well as in tuberculous conditions generally, when eventually we have all the reports of these thousand men in, I shall come pretty near knowing whether in these conditions calcium sulphide actually is as good as it now seems to me to be. Then, should that particular drug prove helpful in such cases, that item, incorporated in a book accessible to everybody, will be worth something, backed, as it will be, by the findings of a thousand men scattered all over the country.

What do you think of the idea?

Pittsburgh, Pa. H. P. KOHBERGER.

[We like your suggestion, doctor, probably because we have been talking something of the kind ourselves for many years. Such a collection of useful remedies should prove of the utmost value to every physician in the country. We will do all we can to "boost." To get things started, we invite every reader to submit a remedy, a suggestion, or a criticism. We will give all the space necessary for the presentation of the ideas of our readers, and we'll consider the book. Now what do the family say? Are you game? What will you do?—ED.]

THE CORTEX

Enlivening thought plays through this crown of gray
As lightning through gray matter of the skies;
For this the cortex doth the life o'erlay—
An iridescent crown doth it comprise.

This is the earth crown mortals here may wear,
Enriched by reason, wit, and wisdom grave;
The soul's fond seat beyond the world's compare,
Entempled, beautiful, in vision's cave.

Here billowed on the cortex's swelling wave
Ambition lifts up with the welling tide;
Here nimble thoughts their fleeting feet well lave
And skip the landscape as with lambkin pride.

Here passion's storm doth concentrate with power
And flings its shafts down to the earth beneath;
Here peals of anger flash their fiery shower,
And sense and judgment cause its wrath to sheathe.

Ideas flash and glint as morning dew,
Wit sparkles as the sheen of silver spray,
Memory's pictures rise before our view,
While reason surges on her glorious way.

Love as the sweet perfume of flower in vase
Fills every cranny and each dipping fold,
Luxuriant as clinging vines may trace
Historic walls enriched by visions old.

And friendship, so akin, distills adown
Her fragrant sweets, the lips of joy may sip;
Gives fellowship which brings to man renown
And frames his name familiar on the lip.

Thus friends mingle as in some spacious hall;
The smile of face greets smile and dimpled cheek;
No living actor is beyond the call
Of this indweller whom the world may seek.

The buried past here rises into view,
The armies dead trample again the sod;
Tongues silent long orations here renew
While men and angels do the will of God.

Oh, man, what beauties rise to gild the sky,
What diadems bedeck thy noble brow,
What splendors fill thy mansion, none on high
Excels the glory into which you grow!

JAS. A. DEMOSS.

Thayer, Kans.

PIXLEY AND PELLAGRA

Shortly after the publication of Goldberger's remarkable paper, in which he attempted to show that pellagra is due fundamentally to protein starvation (CLINICAL MEDICINE, Dec., 1915, p. 1129), we received a letter from our old friend Dr. Charles S. Pixley, formerly of South Carolina, but now of California, in which he called attention to the fact that he had advanced this theory in a paper published in CLINICAL MEDICINE in June, 1913.

We veritably believe that Doctor Pixley is entitled to priority for this discovery. In the paper referred to, he unqualifiedly charges protein starvation with being the fundamental reason for the prevalence of pellagra in the South—and he gives a very interesting hypothesis to explain this belief. He says: "My course with all pellagra-patients is, to

try to reestablish hepatic and pancreatic function by means of protein in such amount as these inefficiently acting organs will bear, increasing the amount weekly." Under this treatment, he declares, "the rapidity with which the patient recovers is gratifying"; and he also says, "There is no drug-cure for pellagra, but it is the most easily cured disease of which I know." To back up this statement, he reports the treatment of 1100 pellagrins, of whom, so far as he was able to discover, only 5 had succumbed.

Look up Doctor Pixley's paper. It was, and is, interesting. We are strongly inclined to claim for him and for CLINICAL MEDICINE priority in presenting the starvation theory as a cause and the high-protein diet as a cure for pellagra.

HYSTERICAL RETENTION OF URINE

I was called at night to see a woman, 30 years of age, who gave the history of not being able to pass her urine for over twenty-four hours. The bladder was quite full and the lower abdomen bulged out with it. I knew that I should avoid passing a catheter in these cases if possible, and, as I had to go to my office to get a catheter, I tried hot packs over the vulva and hypogastrium; these failing, I tried "moral suasion"—had her get up and try to urinate, as she was quite healthy, and temperature and pulse were normal.

I knew if I went home to bed I would be yanked out later, so I decided, at last, to get that catheter at the office. Returning, I went at it, and with the husband holding a lamp, would you believe it, I couldn't hit the meatus! However, my catheter slipped into the vagina and a stream of urine shot out of the meatus urethrae *an inch anterior to where I had the catheter in the vagina.* I had the woman on a bedpan and when she was through there was a half gallon of urine in the vessel.

When I was washing up, at the kitchen sink, the husband said: "Doc, did you get that instrument into the bladder?"

"No," I said, "I slipped it into the vagina purposely, and made her believe it was in the bladder."

Of course one swallow does not make a summer, but I shall certainly try putting the catheter into the vagina again if I ever have another case of hysterical urine retention. Some good discoveries have been made by blundering, and this may be a useful procedure in these cases.

R. HESLOP-PAYNE.

Tripp, So. Dak.

EMETINE HYDROCHLORIDE IN HEMATEMESIS

On January 23, 1916, in the afternoon, I was called to see a woman about 28 years of age, mother of two children. She and her husband were doing some work in a grocery store, when she was suddenly taken with a fainting spell. She was removed to her home, only a short distance away, and I was called. When I arrived at the house she had vomited and fainted away. The vomitus consisted of the fibrous part of an orange (the parts which encompass each section together with the tough center) and with it was blood mixed with other contents of the stomach. The vomited matter was in the toilet in the bath room and I could not estimate the amount of blood.

I administered, at once, a hypodermic of morphine, 1-4-grain, atropine, 1-150-grain, with strychnine nitrate, 1-40-grain. She revived and soon felt quite well.

On Monday there was no trouble, but Tuesday morning I was called early. She had vomited a quantity of blood and fainted. I found her very pale and almost, if not quite, pulseless. The blood was in a quart can and almost filled it. Some of it, perhaps, was water, although we were not allowing anything to be taken by the stomach.

I now injected emetine hydrochloride into the thigh, and in the evening gave a second injection of this alkaloid. The woman passed a good day Wednesday, but Thursday she fainted again. I was called and responded at once. A few minutes after I reached her bedside she had an action of bowels, the stool being nothing but a mass of foul-smelling clotted blood. I immediately injected emetine hydrochloride. In half an hour she threw up about four ounces of the same kind of blood from the stomach. After this no more bleeding occurred; however, I wanted to be sure the hemorrhage would not recur, so used the emetine again in the evening. No bleeding the next day, but I used the emetine in the evening; also, the next day, Saturday, another final dose of the alkaloid. This was on January 29.

All this time I was keeping her quiet. Had ice-bag over stomach for two days, securing rest at night by means of hypoder-

mics of morphine. We could not utilize the stomach for food, so gave nutrient enemata.

February 7, the nurse endeavored to raise her head enough to give liquid food, but she became faint, and extremities cold. They had to wait half an hour before she could take the nourishment.

She had at one time considerable elevation of temperature, was pale as a corpse; finger nails white, and she became jaundiced. I gave calomel followed by a solution of magnesium citrate. Put her on triple arsenates with nuclein, pepto-mangan (Gude), and plenty of tablets of nuclein. February 26, one month from first call, she was lifted into an easy chair. She cannot stand up yet because her "knees are too shaky," as she puts it. We are well pleased that she is recovering so nicely.

A. I. MITCHELL.

Seattle, Washington.

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[In the February number of CLINICAL MEDICINE (p. 171), we printed an article by Doctor Mitchell, reporting his experience with emetine, which he used to check a terrific epistaxis occurring in his wife. The loss of blood was so great that the doctor was greatly perturbed and fearful as to the result, and naturally very thankful that he happened to have a small supply of emetine hydrochloride ready for this emergency.

In the letter accompanying the article which we are printing herewith the doctor says: "I do not send the enclosed case-history with the expectation that you will give it space, but rather to show that while 'one swallow does not make a summer,' two will come much nearer doing so. The more frequent the occasions on which a remedy scores, the greater our confidence in its virtue. Also, it shows how providential it was that I, who a short time ago first came to know through CLINICAL MEDICINE of this application of emetine hydrochloride, and who had secured a tube of tablets for use in pyorrhea, should so soon find it, as I fully believe, the means of saving my own wife's life, and then, through the same means, be able to handle successfully the case described in the paper which I am enclosing."—ED.]

DOCTOR LYDSTON COMMENTS

I note in your last issue a statement regarding the status of my proceedings against the trustees of the American Medical Association relative to their legal standing as officials. This statement is in the main correct. I wish to point out, however, that the Supreme Court refused to grant a writ of *certiorari* because the Appellate Court's decision was good law. This decision was: first, that the American Medical Association must hold its elections in the state of Illinois; second, that every member should have a ballot; third, that because of these facts the State's Attorney must serve *quo warranto* writs upon the trustees.

There will be no further trial of the case. The writs will be served *pro forma*. The trustees will be required to answer. They will be unable to answer because the merits of the case already have been decided. Writs of ouster will be asked for, and a new election be ordered for trustees. It would appear that the American Medical Association is so much "interested" in the results of my suit that technicalities at present writing cut no figure, save in the matter of formal legal delays. Sophisticated delays, quibbles, evasion and deceit will avail as little for the defense as they will annoy me. The fate of the association henceforth is in the hands of the members, where it properly belongs. It is for them to make proper use of their power.

As for myself, my political activities in the American Medical Association have at last ended in the accomplishment of more than I ever dreamed of when I first began my battle for membership rights. I have no political ambitions, and my only hope is that the membership will use and never abuse the ballot, nor permit a self-constituted oligarchy to dominate the association without check or hindrance or regard for the rights of the rank or file.

G. FRANK LYDSTON.

Chicago, Ill.

FOR THE REMOVAL OF GUNPOWDER STAINS

Some years ago I was called to see a small white boy who had filled an ink bottle with gunpowder, put a coal of fire on it, and blew it to see it "shoot." The result was that the bottle exploded, and the youngster was fearfully burned with the powder on the face and neck.

I tried washing the burn with different things, but with no success. Then I tried opening the places in the skin where the grains of powder had entered and endeavored to pick them out, but the stains remained almost as bad as before. I was just about ready to give up, when an old negro woman, a nurse in the family, said she could get all

the powder out before the next day. I told her that it was up to her, and she went off toward the pantry. (I followed, because I wanted to know what she was going to do.) She then told me she was going to get some Irish potatoes, wash them thoroughly, grate them on an ordinary potato grater, and apply the gratings directly to the part burned, applying a cloth covering and allowing the dressing to remain about eighteen hours. Then, if any place had not been reached by the grated potato, it would be reapplied.

I have used this simple remedy frequently and have never had to use the second application, for if it is pressed down on the part well, it will positively remove every particle of the gunpowder as well as the stain in the flesh. The dressing should be about the thickness of an ordinary poultice, and if the patient is burned in the face, see that the potato-pulp is applied with care around the eyelids, since they are usually badly burned.

Several years ago, while at one of our southern resorts, I called at the office of a doctor friend, on July 5, and found him with a patient on the table, the nurse busy handing him different instruments with which he was trying to pick the particles of powder from the face of a little white boy who had celebrated "the glorious 4th" with a toy cannon. It was very warm, and the doctor had beads of sweat pouring down his face. When he asked me if I had ever had the misfortune to get such a case, I told him yes, that I had no trouble at all with them, and that if he would allow me to suggest a treatment, I was satisfied that his patient would be all right the next day. He was glad to hear my suggestion, but when I told him what the remedy was, he grew doubtful at once and questioned its virtue. However, he promised to try it; and it was finally agreed that if it failed I was to pay for the dinner next day at the hotel. Next day, about 6 o'clock, we visited the case. The boy had taken off the potato poultice at 4 o'clock (when we failed to come, as agreed) and was out in the front yard, playing baseball with other boys, and none the worse for the injury except that his face was slightly swollen. The doctor saw him playing and said, "The dinner is on me."

W. W. MATTHEWS.

Glynn, La.

WHOOPING-COUGH—A COMMENT

In treating whooping-cough, it has been my custom for many years to direct that the illuminating-gas from one unlighted burner be turned on in a room until the odor of the gas is strongly perceptible, after which the patient is carried in and allowed to breathe this gas-laden air for half an hour or even longer. This procedure may be repeated whenever the paroxysms of coughing or dyspnea arise. I hardly need mention the well-known fact that children raised near a gas-plant are remarkably free from whooping cough.

The gas is directly germicidal to the microorganism producing pertussis. I have repeatedly resorted to this procedure when called to cases given up by other physicians and had the satisfaction of seeing my patients improve from the very start.

I have mentioned this treatment to many physicians, at different times, always saying that I instruct parents and nurses to try this method whenever they had whooping-cough to deal with, but, strange to relate, in every instance I have been criticized for it, not one approving word have I ever heard. "What do you do that for?", they will ask. "What do you get out of this?" "You are hurting the business." "You are a —— fool!"

I cannot believe, of course, that all doctors feel that way. If so, however, they would remind one of the old Spanish doctor who said: "It were better that all the men in Valladolid should die than that my pet theory of practice be discredited."

To me, the relief of suffering, the saving, even, of one precious life, is worth more than all the money you could pile up.

To help, is our mission.
Write this message abroad across the heavens,
Extend it mile upon mile.
'Tis man's humanity to man
That makes the millions smile.

C. S. COPE.

Detroit, Mich.

[The treatment advised by Doctor Cope should be used with caution, remembering that illuminating gas ("water gas" commonly used) consists largely of carbon monoxide, which is a deadly poison, destroying the red blood cells. There is no antidote. Too much of the gas at a dose, or too many doses, may have a disastrous effect. Therefore "handle with care."

After all, why not calcium sulphide? *I* there a remedy that acts more nicely than this in the average case of pertussis? If you are prejudiced against it, you might try silver iodide, a remedy that has been warmly praised by many competent practitioners. Likewise, emetine has recently been employed

in whooping-cough by Milwaukee physicians, and with really wonderful results so we are informed. But calcium sulphide is my stand-by; it is safe as well as efficient. —ED.]

THE PROCTOLOGIST AND GASTRO-ENTEROLOGIST

Dr. Rollin H. Barnes writes us that *The American Journal of Gastro-Enterology* has combined with *The Proctologist* and will be published (beginning with the March number, first of year) as *The Proctologist and Gastroenterologist*, from St. Louis. Dr. Lewis Brinton, Philadelphia, and Dr. Anthony Bassler, New York, will have editorial charge of Gastroenterology; Dr. A. L. Benedict, editor of Dietetics; while Dr. Rollin H. Barnes, St. Louis, will be managing editor and publisher.

A FEW COMMENTS ON PAPERS IN CLINICAL MEDICINE

One of your subscribers in Ohio, in criticizing Doctor Jones on his electrical treatment, says that our critics really are our best friends. I agree with him, and, in fact, I was on the point of saying the same thing, inasmuch as Doctor Jones was pressing down so heavily on some of us who had used electricity for quite a while, and with rather unsatisfactory results. He says, we get a little family-machine, and then think we have all the electricity there is. I thought I had a very fine plate in a neat case, and used the galvanic and faradic forms in all of their variations—and it seems that these are all that Doctor Jones has used with any degree of success. He did speak of the static "breeze." We use sea-breezes instead, which are excellent.

There are cases which galvanism will benefit, if the current is strong enough to change an old ulcer to an actual burn. But you can shake the life out of a man who has malaria, and he will still have a chill from which there is no reaction either as to fever or even animal-heat. But the doctor failed to tell us how much faradic current he used. While he used the interrupted current, he never interrupted his remarks with an explanation. He used the galvanic current, but failed to say how many milliamperes were used in any case. I suppose he used it as alkaloids are used, to "dose enough;" but some patients will complain if you use only seven milliamperes, while others can stand forty or more.

I also have a little kick on the doctor from Ohio. He thinks we have twice too many doctors. I also think so, and I have fallen on a plan to regulate this. Now, doctor, let's each of us decide to discourage some young fellow who is just starting out, and get him to quit the race. By these means, we can knock out half of the competition; and this will be easy work if we can catch the youngster when he gets a patient from one of our best families and expects to show just what he can do, and this patient, by chance, happens to die. Just go to that young chap and tell him that that is the way the whole darned thing will go all through life; that he will be called out on the dampest, coldest, meanest nights and will then have to cut and shoot to get pay for it, and then, after he has treated all classes of patients for years, including lawyers, doctors, judges, railroad officials, and all the best people of the country, some little black pug-nosed negro will decide that he doesn't know anything, turn him off and get another doctor to treat his wife. That upstart will then throw down his medicine case and quit the field. But be sure you do this on his first case, for, if you wait, he will get so he doesn't give a darn who dies.

As to surgery, that is progressing nicely. Everybody and his brother is having his appendix removed, because the carpenter who made it did not know it was useless and always rotted off if left long enough. We had been neglecting this important organ, because we thought the builder knew what was needed; yet, while in our little thirty-five years work we can't recall even half a dozen patients who died from this, that or t'other bowel obstruction, in nearly every paper we pick up we see where someone has died from "shock" or something else after a successful (?) operation for the removal of the useless (?) appendix. I say, while all this is true, yet we have lost thousands of dollars by neglecting this very important point.

Another trouble, which I already have mentioned in other papers, is the treatment of fractures. We used to place the bone parts, that were broken, in apposition and bind them up with splints, then let them remain for six weeks in this position. Now, although the result was nearly always a proper union, just think what might have been and the great amount of money we have lost by not making a compound fracture of the simple ones, thereby producing blood poisoning, and by this foolish oversight losing much good practice in curing it. Also, by our negligence we have, no doubt, caused many poor under-

takers to miss many a profitable job. True, we did not then know so much about the new antiseptics, but used such common stuff as carbolic acid, bichloride of mercury, iodine, and such-like old-fogy makeshifts; thinking that, by mixing too many articles together—as in listerine, which contains a lot and then some—one might destroy the efficacy of the others, we just took ours straight. Surgery is all right and we are glad to see it advancing. Also, as we know, there is a lot more money in it.

We also gave quinine in malaria, without fear of the dire results we hear of now. We did not get any bad effects, but we did knock the ague out, instead of allowing the disease to run a long-continued course. Another example of our ignorance as to how to make easy money.

Verily, when the old family doctor passes, then, and not till then, will the medical profession begin to make money. One will trim the patient's nails and another his corns; one look after his rectum, others at his appendix, his gall-bladder, his stomach, his skin, bladder, prostrate gland, urethra, brain, heart, throat, lungs, eyes, ears, liver, spleen pancreas and so along the anatomical index. Then the anesthetist, obstetrician, gynecologist, the general surgeon, diagnostician, and nerve-specialist will each get his chance—and, by the way, let us hope and pray that the latter will remove as much of the nerves as possible, so as to cut short a lot of these long-drawn-out papers.

We have not mentioned the intestinal tract, but Doctor Abbott, with his saline laxative and intestinal antiseptics will attend to that all right. But right here let me say that, while I like Doctor Gray's papers very much and have gained lots of information from them, I certainly think he uses too much podophyllin and calomel, or used to, at least. However, I see he uses smaller doses of late.

As I have before stated—and we all know—the human system is nothing but a fine machine. The stomach is the firebox, where we place all the fuel. The bowels are the ash box. The kidneys are the condensers. The heart is the pump, which distributes the fluid for making steam. The brain is a powerful governor that regulates the running of the whole machine. But the liver is only the lubricator that furnishes the wherewithal to make the machine run smoothly and nicely, if kept in good condition. Now, would it be good common sense for the engineer, when he finds his machine all clogged and closed up (as in constipation), to flood the whole works with lubricant (or bile)? Or, would it not be better first to clean out the machinery (you see where Brother Abbott comes in) with saline laxative or something on that order? Then only the normal amount of lubricant would be required. Consequently, only small, stimulating (not heavy purgative) doses of the laxative are required. Besides, when a patient is sick, his liver is also sick, and we should no more try to make the liver do three or four days' work in one day, than we would require a man to do the same.

Mercury can be used for several purposes: as a tonic, as a stimulant, as an irritant, and as a sedative. As a tonic, I prefer to use the bichloride, protoiodide, and similar salts, in small doses. As a stimulant, I give 1-10 to 1 grain of calomel, repeated hourly to effect. As an irritant (which I seldom use) 3 grains of calomel every three hours until 9 to 15 grains have been taken. As a sedative, 10 to 20 grains at a dose.

Who has not had trouble getting the bowels to act at all, even after large doses? And who has not seen the bowels checked for two or three days after large doses of calomel have been taken? The liver must rest, as a man would be forced to do.

For health, want of practice, and other reasons, I have been forced to work in several sections of the country, from the Kentucky line to the Gulf of Mexico. Several years of this time was spent in the worst part of the Mississippi delta, right on the Gulf Coast, not so far north from Doctor Gray's place of work. I am now in the rich prairie section of Mississippi, eastern part of state—so, have gone up one side and down the other of a section a hundred miles long. Therefore, if I should claim to have treated several cases of malaria of every form, you may not be surprised. And one thing I have learned is, that the liver is the liver, north or south, and it must be treated with respect almost the same everywhere, or it will not do its work properly.

Just a few words more. The doctor in Ohio thinks as I do, that we should tell what we know, so as to give others information. I agree with him fully, and I will say first, for his information, that in my rounds I have naturally run up against more than one medical board, and if he has not done the same it is rougher sailing than he may think. So, then, he won't kick on me on this line.

Now, for what I really know—and it is no guesswork. I know that, when I treated malarial bloody urine with quinine, I had less

trouble than I did without it. I know that at one time another doctor and I each had a patient in the same house. They were brothers, taken with this trouble at the same time. We decided that, if quinine was dangerous, we would not use it. But, as both had become unconscious, one doctor decided to slip in a little quinine, and he gave his patient 4 grains every two hours—30 to 40 grains. This patient recovered, but the other —who received none—died. I know that I treated a case that began with the bloody urine for seven weeks—being a continued form. I gave this 14-year-old girl 30 grains of quinine the first day; and repeated it the next day. The urine cleared up, but on the first of each week the blood returned as bad as before. Each time I gave quinine, it cleared up. After the seventh week, she began to improve, and thereafter had no more trouble. If quinine causes the trouble, why should it clear up after giving it? Or, why should it wait just seven days before returning?

These are only two instances. There were many others. Now, I assert that I never lost a thoroughly cinchonized patient from this trouble. I also know that I have seen several who died for want of quinine, while I don't know that I ever saw one die from its use. I also know that quinine is good in almost every kind of fever. Even in typhoid fever, in which enough is given to keep the skin moist, I do not fear it.

I make these remarks, because called for in the January issue

There are also a few other things that I positively know. Pure beechwood-creosote is the best cough-medicine I have ever used, given in half-drop doses in good thick sugar syrup or syrup of tolu, say, 32 drops; syrup of tolu, 8 ounces. Dose: 1 teaspoonful every three hours, and just a little at each coughing-"spell." This in connection with fresh air, plenty of light, and nourishing food; if any medicine will cure consumption, this will do it. Don't say no—just try it and report. It will also cure specific urethritis alone. Don't try to stop the discharge, for, when a dog is running from you, he can't hurt you very badly. Just continue the medicine and report results.

I also know that 30 drops of pure carbolic acid with 2 ounces of potassium chlorate in 8 ounces of water has cured 90 per cent of all kinds of sore throat; with me nothing else. Try it. [Teaspoonful doses, Doctor?—ED.]

Now I am glad to close, but, before doing so, I want to say that the druggists are trying hard to have laws passed preventing physicians from prescribing and filling their own prescriptions. Patients would frequently have to go from five to twenty miles to get medicine, no matter how bad the case. I think it is the most ungrateful and most foolish proposition I ever heard of. If a physician has sense enough to write out what he wants, and the amounts, he certainly could put them in a bottle or box. If he can tell the druggist what directions to write, he certainly can write them himself.

I would be delighted to have a good, honest druggist to fill my prescriptions. But all I have seen (and they filled all of them for several years) will not only refill without orders, but will actually prescribe their own medicines for my patients. I think I have the plan to regulate this, and shall propose it, if this goes through, perhaps in my next letter.

"A FRIEND."

Mississippi.

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[We are thankful to the doctor for assigning the alimentary canal to us. With that portion of the human anatomy to look after we can get along very nicely, thank you!

With calomel prices climbing up and up, we are convinced that many more physicians, even our good friends down in the Mississippi bottoms, will soon be converted to "small doses frequently repeated." It is wonderful what splendid results can be obtained with minute quantities when the mercurial is used carefully and followed with the laxative saline. However, the time is an opportune one to begin the study of other cathartic drugs. For instance, why not use podophyllin? Eclectics call it the "vegetable calomel," and it is a splendid stimulant of liver-action—without being over-stimulant.

When our southern brethren get thoroughly saturated with our ideas regarding intestinal antisepsis, they will not need to saturate their patients with quinine quite as often. The latter is a great remedy, an indispensable one in malaria, but the man who looks after the condition of the *primæ viæ* very carefully, finds that he can get along with less of it than he has heretofore been accustomed to use—and that's another saving. And speaking of intestinal antisepsis, I suspect that the high prices of drugs will serve to interest more of the profession in the Bulgarian bacillus tablets.

The doctor's criticisms are all right. I hope he will follow with another paper, giving us some more of his therapeutic "kinks" as well as his solution of the prescription problem, as promised.—ED.]

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

WHEN one is confined to the house with the grip, as I have been for the past two weeks, one is likely to get into a reminiscent frame of mind, and, I might add, a critical frame of mind, also.

I do not feel exactly like writing a medical article today. Instead, I will relate a few experiences that I have had since I began to practice medicine, that will show a side of human nature that is altogether too common.

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When I was medical superintendent of a well-known sanatorium, some fifteen years ago, before the Harrison law went into effect, I had as a patient a lady whom I suspected of being a cocaine- or some other drug-fiend. She denied that she was addicted to any drug. However, not convinced, I assigned her a special nurse, put her in different clothes, and placed her in another room, one that contained none of her clothes or baggage.

On the third day, following this change, a box about the size of a seidlitz-powder box, done up in blue druggist's wrapping-paper and containing powders of white color came to her by mail from Chicago. In the presence of the lady's husband, I opened the box and then had the powders analyzed in our laboratory. The chemist found them to be cocaine hydrochloride. Accompanied by the husband, I took the box of cocaine powders to the lady's room and accused her of taking this drug. She saw it was useless to deny the fact any longer, but flew into a rage and began to abuse her husband as well as me shamefully, declaring that she would take cocaine as long as she lived, in spite of us.

I told her that she would take no more cocaine while she remained at the sanatorium, and, furthermore, that, with her husband's consent, she would remain at the sanatorium in charge of a special nurse until she was cured. The woman recovered completely, has not relapsed, and is today one of the most grateful and appreciative ex-patients.

The nub of this story is this. Desiring to know, if possible, who had sent that cocaine, I set my "Doctor Furnivall" and "Sherlock Holmes" mind to work, and eventually located the Chicago druggist who sold the drug to this woman. The druggist admitted that he had sent her cocaine to New York, San Francisco, and to many other cities in the United States. He also admitted knowing that she was being treated by me, and probably for the cocaine-habit. When I asked him why he sent cocaine to a woman whom he knew to be under treatment for this pernicious habit, he shrugged his shoulders and said, "Oh, well, if I hadn't sold it to her, she would have bought it somewhere else; and I might as well have the money as the other fellow."

I said: "Then your interest in this case is merely in the little profit you make on the cocaine; you have no consideration for the poor victim nor for her family—you think only of the little money you make out of it?"

"Well, that's about the size of it," he said; "some other druggist would get the money if I didn't."

In the town where the sanatorium is located, there were three drugstores, and whenever I had a patient badly addicted to the use of alcohol, morphine, cocaine, chloral or other drug I would notify each druggist not to sell anyone of these drugs, respectively, to the particular patient under treatment. But my request was never heeded, so far as I know. In several instances, I was positive that my patient secured his drug at one or other of the drugstores in the town, and when I took the matter up with the proprietor I would receive a reply similar to that given me by the Chicago druggist—"If I didn't sell it the other fellow would."

Many times I have had physicians furnish drugs to my patients, well knowing that they were under treatment, and that just for the paltry dollar or so they would make. The Harrison law has done some good, but, unfortunately, it hasn't changed human nature much.

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Not long ago, I had a patient under treatment for neuritis, who was also addicted to

morphine. I got her off the morphine, relieved her neuritis, and altogether she was doing very well, save that she was nervous and irritable—as was bound to be the case under the circumstances—and suffered considerably from sleeplessness; however, her neuritis was steadily growing less. One day the woman received a box from a big department store in Chicago. From something she said, I became suspicious that this box contained a narcotic or hypnotic drug. I opened the box, and found in it two pint-bottles of somnos! Now, somnos doesn't come under the Harrison law, but no one can convince me that it is right or just to place on public sale a drug like somnos. I suppose anyone could buy bromidia by the pound in a department store too.

I maintain it is wrong in principle to have such drugs on sale where anyone can purchase them without restriction. Why are they on sale? Simply to make money for the manufacturers. The welfare of the consumer is of no importance to the manufacturer, what he wants is, the *money*. If his product is a habit-forming preparation, all the better for him, so long as he can keep out of the penitentiary.

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The whisky traffic is another example of this greed for money. It is immaterial to the whisky manufacturer and the vender how much suffering, crime, and poverty result from the sale of the stuff. The only question with them is, how much money they can make out of their business.

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Just now this country is witnessing a most shameful exhibition of greed on the part of certain manufacturers furnishing munitions of war to European nations engaged in murdering each other. I boldly affirm that, morally, a man who will furnish powder and shells and other agents of destruction whether to one person or to a nation as a whole, for the purpose of killing other human beings, is as guilty of murder as if he himself did the killing. And for what are we in this murderous trade? Money! These manufacturers of munitions of war hope deep down in their hearts, that this frightsome war will continue for years longer, so that they can pile up more money. And our government stands for this gruesome business! While a few humanely thinking people are trying to get some food to the starving Polanders, England and Germany, between them keep them from getting it. And we, the people of the United States, stand for it, all the while allowing a few conscienceless manufacturers to prolong the slaughtering by furnishing material with which to blow human beings to pieces. And all this shameful, outrageous business, and the war itself, is prompted and carried on because of avarice and greed. There is no justification whatsoever for it.

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Europe will suffer for generations for this, and so will we. A nation can not last as a money-making mob; it can not concentrate its soul upon money or territory alone, and prosper. No man, no nation actuated by greed is great. Ruskin, over fifty years ago, saw England's weakness, in fact that of all Europe, and in a public lecture delivered in Manchester on December 6, 1864, expressed himself as follows:

"A great nation does not spend its entire national wits for a couple of months in weighing evidence of a single ruffian's having done a single murder, and for a couple of years see its own children murder each other by their thousands and tens of thousands a day, considering only what the effect is likely to be on the price of cotton, and caring nowise to determine which side of battle is in the wrong. . . . . And large landed estates bought by men who have made their money by going with armed steamers up and down the China Seas, selling opium at the cannon's mouth, and altering, for the benefit of the foreign nation, the common highwayman's demand of " 'your money *or* your life," into that of "your money *and* your life." . . . . A great nation does not mock Heaven and its Powers by pretending belief in a revelation which asserts the love of money to be the root of *all* evil, and declaring at the same time that it is actuated, and intends to be actuated, in all chief national deeds and measures by no other love.

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"It is one very awful form of the operation of wealth in Europe that it is entirely capitalists' wealth that supports unjust wars. Just wars do not need so much money to support them, for, most of the men who wage such, wage them gratis; but, for an unjust war, men's bodies and souls have both to be bought, and the best tools of war for them besides, which makes such war costly to the maximum: not to speak of the cost of base fear and angry suspicion between nations which have not grace nor honesty enough in all their multitudes to buy an hour's peace of mind with; as, at present, France and England, purchasing of each other ten-millions' sterling worth of consternation annually (a remarkably light

crop, half thorns and half aspen-leaves, sown, reaped, and granaried, by the 'science' of the modern political economist, teaching covetousness instead of truth). And, all unjust war being supportable, if not by pillage of the enemy, only by loans from capitalists, these loans are repaid by subsequent taxation of the people, who appear to have no will in the matter, the capitalists' will being the primary root of the war. But, its real root is the covetousness of the whole nation, rendering it incapable of faith, frankness or justice, and bringing about, therefore, in due time, his own separate loss and punishment to each person.

"France and England literally buy panic of each other; they pay, each of them, for ten thousand thousand pounds' worth of terror a year. Now suppose, instead of buying these ten-millions' worth of panic annually, they made up their minds to be at peace with each other and buy ten-millions' worth of knowledge annually; and that each nation spent its ten thousand pounds a year in founding royal libraries, royal art-galleries, royal museums, royal gardens, and places of rest. Might it not be better, somewhat, for both French and English?"

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True, it would, Mr. Ruskin, but human nature hasn't changed any since you wrote those words fifty years ago. Indeed, you might think, were you alive today and witnessed the present war, that mankind is today less civilized than when your countrymen were trying to conquer France, as they are now endeavoring to wipe Germany off the map. And now, as then, actuated principally by greed.

You, my reader, may think I am a pacifist. Yes, I am, but you can bet I am for preparedness to the limit, because we are surrounded by nations made up of human beings that are as greedy and bloodthirsty as tigers. And, until human nature is different from what it is, and has been since the beginning of time, the individual as well as the nation must be prepared to protect himself and itself from attack.

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I hold that what the community today most lacks is, the individual instance of virtue of the man of whom the world may say, with Shakespeare: "This is a man"—a noble, virile type, the living exemplar of that high conscience, that stainless sense of honor and incorruptible love of truth which alone proclaims the Creator's image.

The inclination to temporize, to make truce with private convictions lures us from a clearer insight into the true relation of individual action to the general weal. Among certain classes, there is an actual fear of opprobrium attached to overscrupulousness in daily conduct. Not to "succeed" is almost regarded as a reproach, and it is not uncommon, even, to hear cases of successful embezzlement, for example, admiringly spoken of as "smart." Nor is this encomium confined to the ignorant and unprincipled; men of intelligence and standing in the community are all too ready to condone a moral obliquity in others which they would vehemently disclaim for themselves.

In every walk of life, we need men of staunch courage, God-fearing (or, better, God-loving) men, of strong personality, to stem the tide of shuffling weakness and to give honesty and tone to politics, trade, and society.

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Everyone is familiar with Mathew Arnold's phrase of "the Power that makes for righteousness." This is the power which makes for progress. There is no abstract righteousness; but righteousness is that which conserves and lifts and gives light. Unrighteousness is that which hurts and kills individuals, cities, nations. Greed and falsehood disintegrate and break down the tissues of society. Truth binds men together and reinforces the social texture. Honesty builds up, but dishonesty subtracts; therefore, the dishonest can not endure. Cruelty destroys, kindness saves. Impurity is a poison sapping life, but pure hearts and pure homes create new vigor.

Every effort of righteousness is a movement of progress. Unrighteousness is a form of suicide. The eternal forces wage war to undermine and bring to death the things and the men who bring no positive contribution toward the momentum of civilization. Such, then, is the inexorable rule of existence; beneficent, too, since it makes death a gateway to higher life and gives every creature a new value. The truth is, the world is full of dissatisfaction with every present-day standard of progress. There is no civilized nation on earth. There is no modern city of God, yet. There is no organized form of religion, good enough as it is. Our satirists of today castigate the whole race of man much as in the days of Juvenal. The prophets of Israel still speak their rebukes to us. The cry is for some higher types of man, some aristocrats or "supermen" fit to create a nobler society.

Among the Books

FALTA: "DUCTLESS-GLAND DISEASES"

The Ductless Glandular Diseases. By Wilhelm Falta, M. D., Vienna. Translated and Edited by Milton K. Meyers, M. D.; with a Foreword by Archibald E. Garrod, M. D. With 101 illustrations. Philadelphia: P. Blakiston's Son & Co. 1915. Price $7.00.

The translator and editor has furnished us not merely a faithful rendering of the German text of this important book, but also a rounding-out of the subject, by the consideration of recent American and English views on the subject. To this end, he has consulted a wealth of material, comprising hundreds of references and numerous original articles. The American and English views referred to are put into the form of an addendum at the end of each chapter, so as not to interfere with the continuity of the translation. In adding the new matter, care is taken not to confuse the clearcut scheme of Falta, who so admirably separates the various groups of ductless-gland diseases by well-defined lines.

As to the translation itself, no fault can be found with it. Occasionally, when the editor could think of no corresponding English expression, he gives an approximate meaning, with the German word in brackets. It is especially to the ductless glands with more or less well-defined internal secretions (endocrine organs), that the attention is directed, so that bodies such as the spleen, diseases of which are described in relation to those of the hemapoietic system and the carotid body, are not considered here.

CABOT: PHYSICAL DIAGNOSIS

Physical Diagnosis. By Richard C. Cabot, M. D. Sixth edition, revised and enlarged. With 6 plates and 268 figures in the text. New York: William Wood & Co. 1915. Price $3.25.

Doctor Cabot is probably the best teacher of physical diagnosis in the country. He is, in addition, a big man, who includes his work as a whole includes its parts. He, himself, is much greater than any part of his work, or the whole of it; and he stamps all his work with his own greatness. It stands out all over his "Diagnosis." which now is in its sixth edition. One is impressed with the unaffected simplicity and breadth of the subject as Cabot presents it. One also wonders, as one always does when a master expounds a subject, whether it really can be as simple as that, hardly realizing that it is the simplicity of fundamentals and elementals.

When, several years ago, Oswald Vierordt, issued for Americans an English translation of his "Medical Diagnosis," we predicted that it would sweep all other textbooks from the American field, because it dealt, elementally, with principles of diagnosis, instead of with complex details. Strange to say, that very quality defeated its use in our American schools. The American student and physician were not yet educated to that sort of teaching. But Cabot, by his personal force, has achieved that which Vierordt *in absentia* could not do—he has swung the American student around to the study of diagnosis through broad, elemental principles; and the popularity of his own book is witness to the thoroughness of his achievement. Cabot is the Vierordt of the United States.

GRIFFITH: "CARE OF THE BABY"

The Care of the Baby: A Manual for Mothers and Nurses. By J. P. Crozier Griffith, M. D. Sixth edition, thoroughly revised. Philadelphia and London: The W. B. Saunders Company. 1915. Price $1.50.

When we reviewed the preceding edition of Doctor Griffith's excellent manual, we predicted that it would not be long before it would be exhausted and another issue called for; but we confess we hardly expected so quick a verification of this prediction. Not, however, that we are a bit surprised. We know of no man in the United States possessed of a more intimate and intelligent knowledge of the baby, from the standpoint of its health and care, or who has a happier way of imparting that knowledge, in plain, understandable language, to the mother and the nurse; so that, as a matter of fact, the name of Crozier Griffith has become classically identified with this important subject.

The book very properly begins with the time "before the baby comes," and then takes us through every phase of infant-life and care of the baby, giving the most sensible and helpful directions concerning its feeding, toilet, clothes, sleep, training, quarters, and, in short, every conceivable aspect of baby-life. There is a chapter on dietary—not a detailed affair, but just the basic principles of the subject, for fundamental guidance—and a section on the sick baby, in which instructions are given for the management of the commoner minor ailments that affect the infant. Everything in the book is scientific and up to date, without being ultra scientific or impracticable. We can think of no better or safer guide for the mother or the nurse, and the family doctor should not fail to recommend it.

SHAMBERG: "SKIN DISEASES AND ERUPTIONS"

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Shamberg, A. B., M. D. Third edition, thoroughly revised. Fully illustrated. Philadelphia and London: W. B. Saunders & Co. 1915. Price $3.00.

In former times, the study of dermatology was limited to those pathologic conditions that began and ended in the skin. Of late years, however, our conception of the subject has broadened, so as to embrace a consideration of all morbid conditions manifesting themselves, either wholly or in part, in the skin; this, naturally, taking in all diseases characterized by cutaneous manifestations.

Thus the function of the dermatologist is given greater dignity as well as greater import. Under this conception of dermatology, the specialist in skin diseases not only must be able to diagnose the ordinary dermatoses, but capable of differentiating the eruptions of the various febrile ailments, as also the cutaneous signs of constitutional diseases, such as tuberculosis and syphilis.

Doctor Shamberg devotes a special chapter to the treatment of the eruptive fevers, giving a great deal more space to their diagnosis than is usually accorded them in textbooks on skin diseases. This he believes to be justified by their importance; and herein we heartily agree with him. Besides the disorders generally classed as exanthemata, there are included in this chapter the incidental eruptions attending such diseases as, for instance, typhoid fever, rheumatic fever, malaria, meningitis.

The entire book is practical and to the point. One could have wished, however, that the illustrations had been in colors, since color plays so large a part in the recognition of skin lesions. It must be admitted, nevertheless, that even without the coloring the plates afford an excellent representation of the lesions they are designed to illustrate.

KRAUSE: "HISTOLOGY"

A Textbook of Histology. By Rudolph Krause. Translated from the original manuscript. With 36 illustrations. New York: The Rebman Company. 1915. Price $2.50.

Although we are not quite clear on the matter and the introduction does not shed any definite light upon it, we take it that this volume is a sort of supplement to the previous publication, made by the Rebman Company, from the pen of Krause, under the title of "Normal Histology," which we had the pleasure of reviewing some two years ago. Indeed, now we come to examine a little more closely, there *is* indirect testimony to this fact in the introduction, for, we are told that the plates and figures quoted in this book refer to those contained in "Normal Histology."

Professor Krause, (of Berlin, Germany), justly attaches great importance to the matter of drawing the specimens from the microscope. And this book, like its predecessor, excels in its illustrations, which, for all practical purposes, are fully equal to the actual slide. Indeed, many of them represent preparations such as the average student will never make or see in the original. The beautiful series of drawings will in themselves, serve the reader as an excellent course in histology. It really is marvelous that so splendid a work of science and art can be put in our hands at relatively so low a cost; and The Rebman Company has earned our gratitude for achieving this wonderwork.

JELIFFE AND WHITE: "NEUROLOGY AND PSYCHIATRY"

Diseases of the Nervous System: A Textbook of Neurology and Psychiatry. By Smith Ely Jeliffe, M. D., Ph. D.; and William A. White, M. D. With 331 engravings and 11 plates. Philadelphia and New York: Lea & Febiger. 1915. Price $6.00.

There is really not much to be said of this book that has not already been said, many times over, in regard to other books on neurology. Indeed, we could very earnestly wish that there might be more to say. That,

however, is not altogether the fault of the authors, Doctors Jeliffe and White, but, rather, is owing to the disappointingly slow progress made in neurology, as compared with other departments of medical science. In every other branch of medicine the tendency during the last fifty years has been to reduce the concepts of disease to the fewest possible number of the least common denominators, while at the same time adding materially to our knowledge of their clinical aspects.

For neurology, contrariwise, the tendency seems to be to extend our concepts into the greatest number of multiples and to increase and confuse classification without adding anything material to our actual knowledge. Diseases of the nervous system still remain disconnected, isolated entities, having neither pathological nor clinical relation to each other or to any underlying concepts. All of which is offered, not in criticism of Jeliffe and White's work, but in comment upon neurology in general. This book is as satisfactory, after its kind, as the state of our knowledge will permit.

ROBINSON: "TREATMENT OF GONORHEA"

The Treatment of Gonorrhea and Its Complications in Men and Women. For the General Practitioner. By William J. Robinson, M. D., Editor of *The Critic and Guide* and *American Journal of Urology, Venereal and Sexual Diseases*, etc. New York: The Critic and Guide Company. 1915. Price $2.50.

On the title page this book is declared to be "For the General Practitioner," and careful examination makes good the claim. The subject of gonorrhea is treated in such a lucid way and with such careful attention to detail that any general practitioner of average intelligence can secure through its perusal the knowledge necessary to handle any ordinary case of the disease with satisfaction and success.

Doctor Robinson is not a pessimist. He does not look upon gonorrhea as an incurable disease, in this respect differing from the morbid and melancholy position taken by many modern writers and sociologists. He also believes that not to exceed twenty-five percent of the population ever suffer from the disease, again going counter to popular opinion.

In treating the topic of gonorrhea, he begins at the beginning, with the germ and the technic for its recognition. Then he describes the course and symptomatology of the disease, and outlines the treatment for an ordinary acute case. He also takes up the nongonorrheal types of urethritis, but devotes the largest portion of his book to the discussion of chronic forms of gonorrhea and its complications. Naturally and properly, most attention is given to therapy. Of special interest to the readers of CLINICAL MEDICINE are the chapters on prostatitis, which have been considerably elaborated in a series of articles now appearing in this journal.

The latter portion of the book contains a wealth of detail regarding treatment, the use of the silver salts, antiseptics, vegetable astringents, the abortive treatment, and, finally, a useful formulary. The book is one which it gives us much pleasure to recommend.

WILSON: "HYGIENE"

Student's Textbook of Hygiene. By W. James Wilson, M. D., D. Sc. New York: The Rebman Company. 1915. Price $2.50.

The author occupies the post of lecturer on hygiene and public health at Queen's University, Belfast (Ireland), and this book is based on a course of lectures delivered by him during the past seven years at that institution. It is written especially to meet the requirements of students of medicine, and, therefore, ought to constitute an excellent textbook for teaching purposes in medical schools. However, this is by no means the limit of its scope of usefulness, for unquestionably it will prove of value to sanitary inspectors, health-officers, and, in fact, to all who are in any way interested in public health.

As the author quite properly points out, it is impossible for a textbook of this limited size and character to do more than deal with the principles of the science of hygiene and to indicate their application. It is manifestly impracticable, for example, to go into all the details of water, food, and air analyses; and these are better learned in the laboratory, anyway. Sufficient information is contained in this volume, nevertheless, to enable the reader to understand the meaning and the value of such analyses, and to appreciate the responsibilities resting upon health-officers, general practitioners, and private individuals, with regard to the preservation of the health of the community.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 6174.—"Painless Cure of Hemorrhoids." I am amused by the query on page 196 of February CLINICAL MEDICINE, on the one-day painless cure of hemorrhoids, and your comments thereon. Permit me to say that the treatment of hemorrhoids there referred to undoubtedly is the same that I have advocated and used—though "twenty-four hours" is rather quicker than the time of cure commonly observed.

It is so easy, you know, to say to a nervous patient who probably would refuse having a needle thrust into a painful hemorrhoid, "I will just make a special application to your pile"; and this, I presume, that doctor in question does say, and then proceeds to make the [phenol?] injection with so little pain and no after-soreness that the patient is not aware of what was done.

Of course, this cannot be done in all cases, but may be in a large percentage. In my own person (I treated myself), I did not know when the tumor dropped off, but, out of four, three were gone within three days or less.

There is no other way to get such results, I feel sure.

C. A. FREEMAN.

Geary, Okla.

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ANSWER TO QUERY 6167.—I am much interested in the Query 6167. Your advice relative to the iodine is good, but I think that it would be very much better to give iodine intravenously and also to give large doses (8 grs. or larger) of cacodylate of soda; even though there may be no history of syphilis organic arsenic will sometimes do wonders in clearing up these cases.

I hope you will publish the report of your pathologist on the smears.

CLINICAL MEDICINE is still my favorite and eagerly scanned for articles of special interest to me.

W. N. FOWLER.

Kalamazoo, Mich.

Queries

QUERY 6182.—"Chronic (Recurrent) Stomatitis." C. L. R., Oklahoma, is treating a woman, aged twenty-one, whose mouth, throat, and tongue, he explains, "become so raw and sore each month that she cannot eat or swallow without pain, while her gums appear as if she had been salivated, and her breath is very offensive. She has been thus troubled for several years, although not so badly until the last year or so. This condition will improve more or less in the course of the month, but invariably recurs."

It is evident that the treatment in this case, to be effective, must be based upon a clear conception of causative conditions. It is just possible that she has pyorrhœa alveolaris, which for some systemic reason becomes aggravated at the monthly period; on the other hand, it is more than likely that the woman's body-chemistry is seriously deranged and in consequence the autotoxemia during her menstrual periods becomes so pronounced that the "weak spot," the area of least resistance—in this case the buccal mucosa—is the one attacked.

It would be well for you to have a specimen of this patient's urine examined, as well as a smear from the gingival margin taken when the infection is at its height. See whether at any time you can express pus from around the roots of the teeth. Then, in your letter, describe the condition of the tongue: Is it heavily coated; if so, is this coating around the center or on the base?

Also, what is the color of the coating? Has she any carious teeth? Is she constipated? her menstrual flow offensive? Is there leucorrhea between periods? Are there present any abnormalities of the pelvic viscera? Are her feet cold or do they perspire freely—that is, so as to soak the stockings; if so, has the perspiration an offensive odor? What is the pulse rate? Has the patient ever had typhoid fever or rheumatism? All these are questions of importance in arriving at a tenable conclusion. Other obvious irregularities should be noted and stated.

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QUERY 6183.—"Streptococcus or Mixed Infection?" A. I., Wisconsin, is "treating two cases of streptococcus infection, both following an attack of socalled grip. A noted Wisconsin laboratory has found the streptococcus." There is some cough, no fever, and the temperature shows a tendency to be subnormal from 1° to 1.5° F. in the morning, and this gradually rising as the noon-hour approaches. One of the patients is troubled with increased bronchial breathing, the other has more or less pleuritic pain on the left side, more pronounced after eating. Both subjects "catch cold" very easily, even when merely changing stockings or underclothing, or on the least change of the weather. The question is asked whether possibly the streptococcus infection is causing most of the trouble of these patients, and would a vaccine prove beneficial?

As to the last question, we hesitate to prescribe a vaccine, in the absence of more exact knowledge of the nature of the infection. You merely tell us that you "have two cases of streptococcus infection." We gather that the sputum shows streptococci, staphylococci, probably some influenza bacilli and micrococci catarrhalis—a typical "mixed infection." In such cases, the pneumococcus combined bacterin may be given to advantage, the patient at the same time receiving, by mouth, the following: nuclein-solution, m. 10; guaiacol carbonate, gr. 1; calcidin, gr. 1-2; with 5 minims of nuclein additional, repeated three times daily. Also, every three hours (four times daily), quinine salicylate, gr. 1; echinacoid, gr. 1; and calcium sulphide, gr. 1-3.

The nares, nasopharynx, and buccal cavity should be thoroughly cleansed with an alkaline antiseptic two or three times daily, and then the patient inhale vaporized camphomenthol.

If the cough is troublesome, collinsonoid with apomorphine should be ordered every two or three hours; the tablet being slowly dissolved in the mouth.

In all these cases, iodine, nuclein, and quinine may be regarded as the dominant remedies, with calcium sulphide as the most useful alternant. If patients are saturated with calcium sulphide and given quinine and iodine to effect, socalled grippal attacks are very mild and of short duration.

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QUERY 6184.—"Hemianopia of Thrombotic Origin?" J. G. D., Illinois, submits the following case: "The patient, a woman of fifty-one, with negative family history, presents the following most remarkable history and symptoms:

"Twenty-one years ago, she had typhoid fever, which ran the regular course, although complicated by a thrombosis in the left iliac vein; but recovery was complete and uninterrupted. Seven years after that sickness, she experienced a sudden attack of heminopia in the left half of the visual field, and from this she has never recovered. Although the 'specific' history and findings elicited were negative, she was placed upon 'antispecific' treatment. This did no good. She took potassium iodide to the extent of 150 grains per day, without exhibiting any signs of iodism. Last March, she experienced a slight paralytic stroke on the left side of the body. This seems to be permanent. At the present time, the woman is extremely nervous and displays a highly neurotic disposition. Tests of the urine, blood, and the reflexes all give negative results. In my opinion, the trouble points directly to the thrombosis that occurred when she had the typhoid fever, the heminopia and the paralysis resulting directly from the emboli from the thrombus in the vein. Can you suggest a course of treatment?"

Frankly, doctor, after considering the facts as presented, we are inclined to believe that, while typhoid fever may have played some indirect part in the etiology, it was not of the importance you attribute to it. To be specific, hemianopia is practically never caused by embolism. The vessels involved in heminopia are those of the fasciculus of Gratiolet, and it is almost unthinkable that emboli should ever invade those blood-vessels. Embolism almost invariably attacks the vertebral or the basilar arteries, and these do not result in hemianopia.

Despite the rather early age at which this patient suffered her attack of hemianopia, we believe it was due to hemorrhage in the optic fasciculus; and that her later attack of

hemiplegia is probably owing to the same thing in the capsule. It may, possibly, be a thrombosis, which not infrequently is quite sudden in its final denouement; but hemorrhage is much more likely.

Unfortunately, treatment can only be symptomatic. Although the hemorrhages thus far have not been serious, we must bear in mind the possibility of a severe and fatal one to ensue at any time. Should this not occur, the organized degeneration started by the present hemorrhage may go on increasing and, thus, finally cause death. On the other hand, the woman may live for many years without experiencing any further cerebral trouble, and eventually die from some other cause.

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QUERY 6185.—"Chronic Ulcers." O. M. C., Florida, is confronted by a peculiar condition, new to him, in the shape of a great number of chronic ulcers, breaking out on a patient's leg and foot. "They were just sores that grew worse and worse, until they were about the size of a silver quarter. The ulcers are intensely red, and there is considerable discharge that is quite hard to remove. They are generally quite depressed, with well-defined and abrupt edges, but particularly thick and hard. There seems to be an absence of granulations. These ulcers have resulted from slight injuries, and they are intensely painful at times. There seems to be nothing wrong with the general health of patient." The Doctor has vainly tried cleansing with hydrogen peroxide and also phenol solution; has tried permanent wet dressings followed by ointments containing balsam of Peru, scarlet-red, and other remedies. The patient objects to bandaging the entire limb.

We must regretfully admit that there are few things more trying to the patience of the practician than the management of leg-ulcers, particularly when the patient cannot or will not remain quiet for a time and give the limb the benefit of rest and elevation.

We are inclined to believe that thorough cleansing of the ulcers with hydrogen peroxide and the subsequent application of iodized camphophenol (equal parts of carbolic acid and camphor triturated together with iodine, 5 grains to each ounce), twice daily for two or three days, then of an astringent ointment on gauze, this covered with a snug elastic bandage, will prove effective in the variety of ulcer you describe. However, a more radical procedure may be required. Small quantities of a local anesthetic may be injected at several points around the ulcer until it becomes insensitive; then curette with a sharp spoon. The whole surrounding area should be closely shaved and thoroughly washed and then a moderately thick layer of Unna's paste applied.

Bear in mind that in all these cases thorough elimination is essential. The patient usually also requires reconstructive tonics—triple arsenates with nuclein, a dose two or three times daily, will meet the requirements in the majority of instances.

Where the ulcer is intractable, staphylobacterins may be injected. *Small* ulcers sometimes will heal under a coat of benzoinated collodion.

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QUERY 6186.—"The Use of Calx Iodata During Pregnancy." N. C., Iowa, wishes to know whether there is any danger in giving pregnant women calx iodata, or to what extent its use may be carried without producing abortion. He has used it without encountering bad results, but has wondered whether the iodine content might not cause abortion in a pregnant woman.

This writer has used calcidin (calx iodata) for some fifteen years and has frequently given it "to effect" to pregnant women, without observing the slightest undesirable symptoms. Indeed, iodine in therapeutic doses is not likely to produce abortion, and, as presented in calx iodata, certainly would not do so.

It is a question, of course, whether oversaturation, i. e., the production of iodism, under such circumstances would be desirable; and it is conceivable that under such conditions extremely sensitive women might abort.

During the first two or three months of pregnancy, iodine—or any other potent alterative drug—should be given with a certain amount of caution; and here, as elsewhere, it would be well to withhold the administration of the drug for three or four days of each month, eliminating freely meanwhile.

As a matter of fact, however, save in tuberculosis and similar conditions, it is rarely necessary to administer calcidin in large doses for a prolonged period of time, while during pregnancy, even under such circumstances, active medication is rarely desirable.

In all acute diseases to which a pregnant woman is subject, calcidin, in the usual dose,

may, therefore, be given to effect with perfect safety.

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QUERY 6187.—"Resinous Paste for Making Splint." H., Nebraska, writes: "In the work on diseases of children by Pfaundler and Schlossman (translated by Shaw and La Fetra) there is given a formula for a paste to be used in cases of club-foot, which reads as follows: colophony, 50; mastich, 25; alcohol, 95 percent, 360; terebinth, 30; res. alb., 15. Will you kindly translate this into a working-formula which an ordinary druggist can understand."

In ordinary American terms, this formula reads as follows; the figures represent parts, percentages, ounces, or any chosen units: Take of colophony, or yellow rosin, 50 parts; gum mastic, 25 parts; alcohol, 95 percent, 360 parts; crude, or thick, turpentine (see U. S. P.), 30 parts; white rosin, 15 parts. Dissolve the rosin and mastic in the alcohol, before adding the crude turpentine. The reason for the white rosin in the formula is not at all apparent. Crude turpentine is rarely found in drugstores nowadays, except very ancient ones.

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QUERY 6188.—"Giving Calcium Sulphide to Young Children." W. S. R., Ohio, asks: "In what form can I give calcium sulphide to children too small to take the granules? I prescribe it largely in whooping-cough, but am unable to give the drug to infants."

We suggest that you crush the granule of calcium sulphide (gr. 1-6) with a little milk-sugar, place the powder on the child's tongue, then let the baby be given its bottle, or a teaspoonful or two of water, or be placed at the breast. A solution of the drug cannot be termed palatable, but may, of course, be used. It should, however, be made freshly each day and remain covered. However, the present writer has never had the slightest trouble in giving calcium-sulphide granules to infants. Simply flatten the granule with a knife-blade, put it on the tongue, then give the child some fluid to swallow. That's all.

It is a very simple matter, though, to crush six or twelve granules, mix the powder with the desired quantity of sugar of milk, and dispense this in the form of powders, directing one of these to be given every two or three hours.

For a liquid mixture, it is an excellent idea to use a petroleum emulsion as a base. Dissolve the necessary number of calcium-sulphide granules or tablets in a little hot water, then for each dose add 1-2 or 1 teaspoonful of the emulsion and mix well. The dose will be from 30 to 60 drops every one, two or three hours, according to circumstances. The mixture must be shaken before the medicine is poured out.

Also see the article on "Palatable Prescribing for Children," which appeared in the September (1915) issue.

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QUERY 6189.—"Trophoneurosis?" J. R., Indiana, is treating a woman 70 years of age who five years ago began to have a feeling of "soreness" on the top of her head, this spot being not larger than a dollar, but the area gradually increased, until now it is almost four inches in diameter. The sensation is a very disagreeable one, sometimes feeling cold, sometimes hot. There is some pain most of the time, and the scalp is very sore when touched. Otherwise her health seems to be pretty good. "However," the Doctor writes, "about two months ago, the woman began to feel a dead, heavy aching in the left shoulder, which extended down the arm to the fingers. Now the other shoulder, arm, and hand are affected in about the same way. She calls it a constant 'dead, heavy boneache,' plaguing her day and night and permitting of no rest or sleep. It is somewhat sore to the touch, but not swollen or reddish; objectively, one cannot see anything wrong. Her bowels are moving all right; she has no heart trouble; temperature is normal; tongue is clean; kidneys are acting, seemingly, as they should, and the urine is of about the right color, although depositing some white sediment; there is no soreness of the liver, kidneys, spleen, stomach or spinal column. This woman has been treated by half a dozen other physicians, but all have failed to give the malady a name or to do her any good. What is it?"

Unfortunately, the clinical picture is not clear enough to enable us to venture a definite diagnosis.

Pain in the "top of the head" (the vertex), especially when the area involved is not much larger than two or three inches in extent, is, as undoubtedly you are aware, due either to some hemic disorder (anemia) or to neurasthenia. Epilepsy can be excluded. The possibility of hysteria must be seriously considered, though there may be present some uterine or vesical disease, and this reflexly causes the sensations in the scalp.

The "deep bone pains" developing later in both arms constitute a somewhat peculiar

symptom, which leads us to think particularly of rheumatism; that is, autointoxication—the retention of waste material in the system.

You state that you discover no cardiac disorder. Valvular disease, therefore, may be excluded, together with angina pectoris. An enlarged spleen might cause pain in the *left* arm. Neuritis is almost always unilateral, as is also cervicobrachial neuralgia.

There remain to be considered paralysis agitans (but as to this other essential symptoms are lacking), syringomyelia, and progressive muscular atrophy. However, no evidence of the existence of these latter diseases seems to exist. Naturally, the advanced age of the patient would lead us to look for degenerative changes; and quite probably more or less arteriosclerosis is present. In addition, the possibility of a cerebral tumor must not be lost sight of.

Send to a good pathologist for examination a specimen of the woman's urine (4 ounces of the 24-hour output, stating the total quantity voided). Test the reflexes carefully. See whether you can discover tenderness on deep pressure along the spine. State the present and former weight of the patient. Make a very careful examination of the pelvic organs. Then report in full.

We are inclined to believe that improvement will follow thorough elimination and the maintenance of a therapeutically clean digestive tract, supplemented by careful dieting and an epsom-salt sponge-bath given every second or third night.

As a first procedure, doctor, place the patient on her right side and give her a copious salt-water enema. Then give calomel, 1-6 of a grain or blue mass and soda, gr. 1-2; podophyllin, gr. 1-6; irisoid, gr. 1-6; given half-hourly for four doses. Then, a few hours later, a full dose of a saline laxative. For the pain, give, every three hours, salicylic acid (natural), gr. 1; calcidin, gr. 1-3; colchicine, gr. 1-250; bryonin, gr. 1-128; macrotoid, gr. 1-12; boldine hydrobromide, gr. 1-64; together with suitable aromatics; to be taken with 4 ounces of hot water. Also, order bilein, gr. 1-12, with pancreatin, one hour after each meal. Every second or third night, have the entire body sponged with epsom-salt solution (1 ounce to 3 pints of water), followed by an alcohol-rub.

Faradization of the spine, or the application of the high-frequency current may prove beneficial. Be very positive in your suggestions. However, the prognosis, so far as recovery is concerned, should be somewhat guarded.

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QUERY 6190.—"Dosage of Staphylo-Acne-Bacterin." E. N. F., Ohio, desires information concerning the use of polyvalent staphylo-acne-bacterin. He writes: "As an ampule contains 550,000,000 killed bacilli and the initial dose is 50 to 250 million, one such ampule would contain from two to ten doses. Is this correct? What may be regarded as a safe initial dose for a girl eighteen years old, whose condition is not severe—being afflicted with a good many blackheads, or comedones, and a moderate number of pimples containing pus? If too large a dose is given, what reaction will occur? If the doses are not large enough, how may I know? Is each successive dose after the initial one to be increased? If so, by how much; and what determines this increase?"

One ampule of staphylo-acne-bacterin contains, as you say, 500,000,000 killed mixed staphylococci, and 50,000,000 acne-bacilli. The initial dose being from 50 to 250 million killed bacteria, one ampule contains, as you also figure it, from two to ten initial doses.

The initial dose of 50,000,000 is necessarily a small one, but is fixed at that amount because the dose is figured approximately upon the number of acne-bacilli, of which latter 5,000,000 is the initial dose in the case of children; and, besides, it is often preferred by those who are very cautious, lest they produce any reaction whatever by it, inasmuch as many patients entertain a definite horror or fear of hypodermic injections.

A woman of eighteen, who is of fair physique, should receive as an initial dose about 250,000,000 organisms, that is, one-half of an ampule. If this happens to be too much, there will occur a reaction of the nature described in appropriate literature, including a rise of temperature, marked depression, and some local pain and swelling, which sets in within a few hours after the injection but rarely lasts longer than forty-eight hours. If the dose is insufficient, no clinical reaction occurs, and no—or practically no—improvement in the pathological condition follows.

After the initial dose of one-half ampuleful, we should give the entire contents of one ampule for the second dose. If this does not produce too much of a reaction, we should continue this dosage for five or six doses, and then give the contents of two ampules at a time, repeating this for five or six doses. It is but rarely advisable to administer more than the contents of two ampules as a dose

at one time. It probably will be better to give one ampule every four days, instead of two every seven days; in other words, shorten the intervals, instead of increasing the dose.

It is essential that the directions as to hot fomentations or other methods of increasing the local blood supply at the site of the lesions be thoroughly carried out. All comedones must be expressed and all pustules incised. It is impossible to cure acne if the cuticular glands remain filled with sebaceous material, as evidenced by large numbers of comedones. These act as irritating foreign bodies and must be removed.

Do not forget to pay particular attention to the gastrointestinal tract, making sure that the patient is not suffering from constipation. Also, the urine must be examined, to be sure that there is no evidence of indican in large amounts, thus indicating a marked digestive disturbance and absorption of toxins from decomposing fecal material, which are constantly poisoning the patient to such an extent that there are no reserve forces capable of stimulation by bacterins or any other means. In such a condition, it is impossible to cure acne with bacterins or any other known means.

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QUERY 6191.—"Obscure Pain in Thigh." E. E. F., Oklahoma, asks for diagnosis for a case presenting severe pain, with little or no swelling, on inside of thigh of the left leg, occurring in a male, age 44. Tongue and breath very foul, temperature 102° F., constipation, urine highly colored and scant, negative as to albumin and sugar. The doctor gave 1-2 percent solution urea and quinine subcutaneously, which controlled local pain, and it has not returned, but the foot and ankle began to swell the next day, gradually extending to groin, and this still continues after return to normal in all other respects. He asks: "Is this a case of elephantiasis? The swelling is not improved by rest and elevation, but he feels better with moderate exercise. Would hot-air treatment benefit? There is a slight rash on instep which I have attributed to heat from rubber shoe."

We have very carefully considered the clinical data presented, and regret to say with our limited knowledge of basal pathological conditions it is impossible to venture a diagnostic or therapeutic suggestion. It is hardly likely that you have to deal with a case of elephantiasis. The swelling about the ankle may be due, as you are of course aware, to any one of several conditions. As the edema did not make its appearance until the urea and quinine was injected, it is quite possible normal conditions will return after thorough elimination, renal, dermal and intestinal, and application of hot compresses, followed by proper massage, to the affected extremity.

On the other hand, the possibility of obstruction—thrombotic or otherwise—must be borne in mind. You do not state whether there is still any pain or if the parts pit upon pressure; any luetic taint; patient addicted to the use of alcohol.

If any reader of this Journal can throw any light on the diagnosis of this case we shall be glad to hear from him.

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QUERY 6192.—"Lycopodium." J. McD., Pennsylvania, wants information regarding the action of lycopodium, especially when insufflated.

Lycopodium is an odorless, tasteless and, in the estimation of most physicians, therapeutically insert substance.

In olden days, lycopodium, the spores of club-moss (see Dispensatory), was considered to possess diuretic and antispasmodic properties, but nowadays by many is considered inert, and is chiefly used in rolling out pill-masses to prevent its "sticking"; it also is considered an excellent protective dusting-powder for excoriated surfaces, especially for infants.

Homeopathic practioners administer lycopodium, in various attenuations, in affections of the mucous tracts, flatulence, constipation, ileocolitis, hepatic congestion, aneurism, chronic affections of the lungs and bronchi, diphtheria, lithiasis, pruritus ani, and many skin diseases.

When insufflated, lycopodium might at first act as a mild irritant as any foreign body, causing sneezing, lacrimation, and so on. Many people, however, inhale the substance without experiencing any effect whatever.